INDEX OF NAMES AND TYPES IN WEST INDIAN GONOLOBINAE (APOCYNACEAE: ASCLEPIADOIDEAE), INCLUDING FOURTEEN NEW LECTOTYPIFICATIONS, ONE NEOTYPIFICATION, A NEW NAME, AND A NEW COMBINATION

Alexander Krings

Herbarium, Department of Plant Biology
North Carolina State University
Raleigh, North Carolina 27695-7612, U.S.A.
Alexander_Krings@ncsu.edu

ABSTRACT

Types and their location of deposit are provided for taxa of subtribe Gonolobinae (Apocynaceae: Asclepiadoideae) in the West Indies. The following fourteen taxa are lectotypified: *Gonolobus bayatensis* Urb., *G. broadwayae* Schltr., *G. ciliatus* Schltr., *G. dictyopetalus* Urb. & Ekman, *G. ekmanii* Urb., *G. nipensis* Urb., *G. sintenisii* Schltr., *G. tigrinus* Griseb., *G. tobagensis* Urb., *G. variifolius* Schltr., *Ibatia mollis* Griseb., *Poicilla costata* Urb., *Poicilla tamnifolia* Griseb., and *Poicillopsis crispiflora* Urb. *Gonolobus grenadensis* Schltr. is neotypified. A new name and a new combination in *Matelea* Aubl. are respectively proposed for *Jacaima parvifolia* Proctor and *J. costata* (Urb.) Rendle var. *goodfriendii* Proctor.

RESUMEN

Se aportan tipos y su localización de taxa de la subtribu Gonolobinae (Apocynaceae: Asclepiadoideae) en las Indias Occidentales. Se lectotipifican los siguientes catorce taxa: *Gonolobus bayatensis* Urb., *G. broadwayae* Schltr., *G. ciliatus* Schltr., *G. dictyopetalus* Urb. & Ekman, *G. ekmanii* Urb., *G. nipensis* Urb., *G. sintenisii* Schltr., *G. tigrinus* Griseb., *G. tobagensis* Urb., *G. variifolius* Schltr., *Ibatia mollis* Griseb., *Poicilla costata* Urb., *Poicilla tamnifolia* Griseb., y *Poicillopsis crispiflora* Urb. Se neotipifica *Gonolobus grenadensis* Schltr. Se propone un nombre y una combinación nueva en *Matelea* Aubl. para *Jacaima parvifolia* Proctor y *J. costata* (Urb.) Rendle var. *goodfriendii* Proctor respectivamente.

INTRODUCTION

Subtribe Gonolobinae (Apocynaceae: Asclepiadoideae) comprises about fifty species in the West Indies, here defined to include the Greater and Lesser Antilles, the Bahamas, Trinidad and Tobago, Aruba and the Netherland Antilles, and the Cayman Islands. Evidence from the chloroplast (Rapini et al. 2003; Liede-Schumann et al. 2005; Rapini et al. 2006; Krings et al. 2008) and nuclear genomes (Krings et al. 2008) supports the monophyly of Gonolobinae. Generic circumscriptions remain poorly defined and it is likely that the broad concept of *Matelea* Aubl. sensu Woodson (1941) is not monophyletic. Genera referred to the subtribe with representation in the region include *Fischeria* DC., *Gonolobus* Michx., *Matelea* (incl. *Ibatia* Decne., *Jacaima* Rendle, *Poicilla* Griseb., *Poicillopsis* Schltr., *Ptycanthera* Decne.), *Macroscepis* Kunth, and *Metalepis* Griseb. (Fontella & Schwarz 1981a; Kunze 1995; Liede 1997; Morillo 1997; Rapini et al. 2003; Liede-Schumann et al. 2005; Rapini et al. 2006). Subtribal position has been most controversial for *Metalepis*, which some workers have also placed within in a broad concept of *Cynanchum* L. (Woodson 1941; Spellman 1975; Sundell 1981). Recent evidence places it basal to a well-supported Metastelmatinae-Oxypetalinae-Gonolobinae clade (Liede & Kunze 2002; Liede-Schumann et al. 2005). The last regional treatment of Gonolobinae is now over 100 years old (Schlechter 1899) and a number of new species have been described by various workers, including Britton, Krings, Liogier, Proctor, Spellman, Urban, and Woodson (see Krings 2005b, 2006, 2007, as well as the present study). Recent effort as part of a larger systematic study of Gonolobinae and treatment for the *Flora de la República de Cuba* (Krings 2005a–d, 2006, 2007; Krings et al. 2005; Krings & Fantz 2006; Krings & Saville 2007), has revealed that a number of lectotypifications and neotypifications are necessary. Publishing and compiling these designations separately allows for greater discussion of some issues than is possible in a flora format. The provision of a comprehensive index to all names in West Indian Gonolobinae seems additionally useful considering the scattered nature of the literature and historical errors in citation.

Fourteen lectotypes and one neotype are designated here. A new name and a new combination in *Matelea* are proposed for *Jacaima parvifolia* Proctor and *J. costata* (Urb.) Rendle var. *goodfriendii* Proctor.

METHODS

Names in West Indian Gonolobinae were compiled from searches of the TROPICOS database (http://www.tropicos.org) for species with West Indian types, as well as from review of pertinent literature (i.e., Grisebach 1862, 1866; Duss 1897; Schlechter 1899; Millspaugh 1902; Boldingh 1909, 1914; Woodson 1941; Moscoso 1943; Cheesman 1947; Alain 1957; Gooding et al. 1965; D'Arcy 1967; Adams 1972; Little et al. 1976; Correll & Correll 1982; Proctor 1984; Howard 1989b; Nicolson 1991; Liogier 1994, 1995; Fournet 2002; Acevedo-Rodríguez 2005). Protologues were compiled from works held at the North Carolina State University Libraries or obtained through inter-library loans. Subsequently, queries were made to ninety institutions known to house West Indian collections—of which sixty-five responded with either loans, digital images, or negative search results (see Acknowledgments). Visits were also undertaken to BM, BSC, DUKE, HAC, HAJB, IJ, K, UCWI, UPRRP, US, and P.

Nearly half of the species names in West Indian Gonolobinae can be attributed to three German workers: August Heinrich Rudolf Grisebach (1814–1879), Friedrich Richard Rudolf Schlechter (1872–1925), and Ignatz Urban (1848–1931). The former worked from the University of Göttingen (GOET) and the latter two from the Botanical Garden and Museum Berlin-Dahlem (B).

The general philosophy followed herein, is that for taxa described by Grisebach, applicable specimens judged original material at GOET are considered holotypes—although, in a strict sense, Grisebach did not designate them as such, although his use of them is evident by his notes and annotations. However, typification of Grisebach names based on collections by Charles Wright (1811–1885) can be problematic, as collections cited under a single collection number frequently represent gatherings from different localities and different times (Howard 1986, 1989a). The philosophy adopted herein is that Grisebach names based on Wright collections should be lectotypified when (1) it can be shown that specimens distributed under a single number represent gatherings from different localities at different times, and/or (2) no specimen of a Wright number remains extant at GOET. When it cannot be shown that gatherings came from different localities and different times, duplicates of a Wright number designated lectotype are considered isolectotypes (see Krings & Fantz 2006). When it can be shown that gatherings came from different localities and different times, duplicates of a designated lectotype are treated as syntypes.

Urban described West Indian taxa largely based on specimens received by him from Erik Ekman (Cuba and Hispaniola), William Harris (Jamaica), and Walter Elias Broadway (Trinidad, Tobago, and Grenada). For these taxa, holotypes are presumed to have remained at B until their destruction in a fire in World War II. Thus, lectotypes are chosen for Urban names from duplicates of numbers cited in his protologues.

RESULTS

Overview.—Names of novelties in West Indian Gonolobinae can be attributed to seventeen workers (Table 1). The majority of taxa were described during four phases of intensive interest in the region that occurred at ca. 20–30 yr intervals over the past 140 yrs. The first phase was dominated by Grisebach and based on the collections of Wullschlagel (Antigua), Charles Wright (Cuba), Imray (Dominica), and Alexander, Higson, Macfadyen, and Purdie (all Jamaica). Important works resulting from activity during this phase include the *Flora of the British West Indian Islands* (Grisebach 1862) and the *Catalogus Plantarum Cubensium* (Grisebach 1866). The second phase was dominated by the activity of Schlechter—based primarily on collections by Broadway (Grenada; Trinidad & Tobago), Eggers (Tobago), Poiteau (Haiti), Sintenis (Puerto Rico), and Wright (Cuba)—and Urban—based primarily on the collections of Broadway (Tobago), Buch (Haiti), Ekman (Cuba & Hispaniola), and Harris (Jamaica). The most important relevant work resulting from this later period of activity is Urban's multi-volume *Symbolae Antillanae* (1898–1928). The third phase was dominated by Liogier (a.k.a. Hermano Alain), who published more West Indian Gonolobinae novelties based on his own collections than any other worker before or since. Additional species described by Liogier are based on collections

TABLE 1. Authors and numbers of novelties at the species rank in West Indian Gonolobinae, based on types from the region.

Author(s)	No. of spp. names published	Author(s)	No. of spp. names published
Alain [Hno.], "A.H. Liogier"	8	Proctor, G.R.	1
Bertoloni, A.	1	Richard, A.	1
Britton, N.L. and P.G. Wilson	1	Schlechter, F.R.R.	9
Decaisne, J.	3	Spellman, D.L.	1
Ekman, E.	1	Sprengler, C.P.J.	2
Grisebach, A.H.R.	12	Urban, I.	9
Hamilton, W.	1	Vahl, M.	2
Jacquin, von, N.	1	Woodson, Jr., R.E.	3
Krings, A.	10		

by Ekman (Hispaniola) and Howard (Dominican Republic). Important works resulting from his efforts or contributions include floras of Cuba, Hispaniola, and Puerto Rico (Alain 1957; Liogier 1994, 1995). The fourth phase of interest is the result of current efforts undertaken by the present author (Krings 2005b, 2006, 2007). New discoveries during this phase are based on collections by Eggers (Dominica), Ekman (Hispaniola), Graveson (St. Lucia), Krings and Springer (St. Vincent), Liogier (Dominican Republic), Marcano and Jiménez (Dominican Republic), and Quentin (Guadeloupe). No new names in West Indian Gonolobinae resulted from R.A. Howard's efforts toward his *Flora of the Lesser Antilles* (Howard, 1989b).

List.—Names are listed index style and include legitimate, illegitimate, and misapplied names. They are arranged strictly alphabetically by basionym or combination. The most recent combination for a respective name follows the basionym (≡). Currently accepted names are in bold or specified under "Notes." Under the name, the locality and/or collector the type is given as it appears in the protologue. Type specimens seen and verified by the author are indicated by an exclamation point ('!') following the herbarium of deposit. The very few specimens not seen are indicated by 'n.v.' (*non vidi*). 'Loc. not cited' signifies that the herbarium of deposit was not indicated in the protologue. Herbarium abbreviations follow Index Herbariorum (Holmgren & Holmgren 1998–present). Book abbreviations follow TL-2 (Stafleu & Cowan 1976–1988) and journal abbreviations B-P-H (Lawrence et al. 1968) and B-P-H/S (Bridson & Smith 1991). Author abbreviations follow Brummitt and Powell (1992).

Asclepias maritima Jacq., Enum. Syst. Pl. 17. 1760. ≡ **Matelea maritima** (Jacq.) Woodson, Ann. Missouri Bot. Gard. 28:222. 1941.

Protologue: Neither specimens, nor locality cited.

Type: Herbar. Du Jacquin, 2 Insulae Caribaea, De Ponthieu (LECTOTYPE designated by Krings & Saville 2007: BM!).

Notes: Only a single sheet of *Asclepias maritima* Jacq. was located that could qualify as belonging to the original material. Eight fragments, all *Asclepias maritima*, are mounted on a single sheet held at BM and barcoded (BM000834432). A handwritten note on the top left of the back of the sheet reads "Herbar. Du Jacquin." followed by "2 Insulae Caribaeae. De Ponthieu." Based on the note, the fragments appear to represent two elements, but they cannot be delineated. A dehisced follicle is mounted along with leaves in relatively good condition and a few flowers in poor condition. Fruits and flowers are not mentioned by Jacquin in the protologue, and these elements may represent the collection later combined with the vegetative fragment used for the protologue. Considering that this sheet appears to represent the only remaining collection of *Asclepias maritima* from the herbarium of Jacquin, it was designated lectotype by Krings and Saville (2007).

Cynanchum denticulatum Vahl, Eclog. Amer. 2:23. 1798. ≡ *Matelea denticulata* (Vahl) Fontella & E.A. Schwarz, Bol. Mus. Bot. Munic. 46:4. 1981.

Protologue: "Habitat in Guiana. von Rohr," loc. not cited.

Type: Guiana, *von Rohr120* (HOLOTYPE: C [IDC microfiche photo: Vahl herbarium nr. 17:III, 1!])

Notes: Most recent authors have accepted this entity under the name *Matelea denticulata* (Vahl) Fontella & E.A. Schwarz. However, in a recent phylogenetic analysis based on chloroplast and nuclear data, the taxon emerged in a clade of *Gonolobus* s.l. (Krings et al. 2008) and should be recognized as *Gonolobus denticulatus* (Vahl) W.D. Stevens in a broad interpretation of the genus.

Cynanchum hirsutum Vahl, Eclog. Amer. 2:24. 1798. ≡ **Matelea hirsuta** (Vahl) Woodson E.E. Cheesman, Fl. Trinidad 2:170. 1947.

Protologue: "Habitat in insula Trinitatis. von Rohr," loc. not cited.

Type: Trinidad, *von Rohr 92* (HOLOTYPE: C [IDC microfiche photo: Vahl herbarium nr. 17:III, 3!; ISOTYPE: BM!).

Notes: An annotation on *von Rohr 92* indicates that it was studied by Ignatz Urban.

Cynanchum maritimum (Jacq.) Jacq., Select. Stirp. Amer. Hist. 83, t. 56. 1763. ≡ **Matelea maritima** (Jacq.) Woodson, Ann. Missouri Bot. Gard. 28:222. 1941.

Notes: Some authors have mistakenly attributed the combination in *Cynanchum* to Linnaeus' *Syst. Nat.* (1767). However Linnaeus (1767) clearly referenced Jacquin (1763). In *Syst. Nat.* (1767), he wrote: "C. caule volubili, fol. cordatis hirsutis subtus tomentosis, pedunc. Aggregatis. Mant. 54." The *Mantissa plantarum* (Mant.) was published originally as an appendix to volume 2 of his *Syst. Nat.* (1767). In the *Mantissa*, Linnaeus (1767) provides further detail, referring to 'Jacq. *amer.* 86, t. 56,' and describing corollas of *C. maritimum* as 'atropurpurea.' Although *C. maritimum* is described on pages 83 and 84 in Jacquin's *Select. Stirp. Amer. Hist.* (1763), rather than on page 86 as cited by Linnaeus (1767), the illustration reference (plate 56) is correct and is not inconsistent with plants known most recently as *Matelea maritima* in the West Indies. Thus, it is clear that Linnaeus accepted Jacquin's combination and was not himself proposing a new one. Continued citation of *Cynanchum maritimum* L. is incorrect.

See *Asclepias maritima* Jacq.

Cynanchum maritimum (Jacq.) L., Syst. Nat. 2:192. 1767, err. cit. [=*C. maritimum* (Jacq.) Jacq., see above].

Notes: Linnaeus (1767) never made this combination mistakenly attributed to him by subsequent workers.

Cynanchum rostratum Vahl, Symb. Bot. 3:45. 1794. ≡ **Gonolobus rostratus** (Vahl) Schult. in Roemer & Schultes, Syst. Veg. 6:61. 1820.

Protologue: "In insula Trinitatis legit Dn. v. Rohr," loc. not cited.

Type: Trinidad, (von Rohr?) Hb. Liebmann (HOLOTYPE: C [IDC microfiche photo: Vahl herbarium nr. 17:III, 5!]; ISOTYPE: BM!).

Notes: Although Stafleu and Cowan (1986) noted that "Vahl's *Symbolae Botanicae* are based on the Forsskål material at C," *Cynanchum rostratum* is not listed in the index accompanying the IDC microfiche of the Forsskål herbarium. However, there is a specimen in the Vahl herbarium corresponding to *Cynanchum rostratum*. The specimen label identifies it as having been part of the Hb. Liebmann at some point, however the hand, identifying the collection as *Cynanchum rostratum*, belongs to Vahl. Von Rohr is not indicated on the label.

Cheesman (1947) mistakenly considered "*Gonolobus rostratus* R.Br. sens. Griseb Fl. 420" a synonym of "*Matelea viridiflora* (G.F.W. Meyer) Woods." However, the latter clearly corresponds to *Matelea denticulata* (Vahl) Fontella & E.A. Schwarz based on Cheesman's description (e.g., "cal[yx] lobes lanceolate," "corolla [...] lobes ovate," "anthers without dorsal appendages") and not to *Gonolobus rostratus* sensu Grisebach (1862) (e.g., "calyx [...] segments ovate," "corolla [...] segments lanceolate-linear"). Grisebach's (1862) taxon (also from Trinidad) is clearly referable to *G. rostratus* (Vahl) Schult. The two taxa are difficult to confuse by anyone familiar with them. The combination in *Gonolobus* is to be attributed to Schultes as Robert Brown never made the combination erroneously attributed to him by some authors such as Grisebach (1862) and Schlechter (1899).

Cynanchum stellatum Vell., Fl. Flumin. 121; 3, t. 80. 1829. ≡ **Fischeria stellata** (Vell.) E. Fourn. in Mart., Fl. Bras. 6:301. 1885.

Protologue: "Habitat silvis maritimis," loc. not cited.

Type: Vell., Fl. Flum. 121; 3, t. 80. 1829. (LECTOTYPE, designated as type by Murphy 1986).

Cynanchum viridiflorum G. Mey., Prim. Fl. Esseq. 141. 1818, nom illegit., non Sims, 1817.
Protologue: "in fruticetis plantationis Hamburg," loc. not cited.
Type(s): The type could not be located.
Notes: A synonym of *Cynanchum denticulatum* Vahl fide Howard (1989b).

Fischeria cincta Griseb., Fl. Brit. W.I. 421. 1862. ≡ *Gonolobus cinctus* (Griseb.) Benth. & Hook. f. ex B.D. Jacks., Index Kewensis 2:1054. 1895.
Protologue: "Jamaica!, *Higson*," loc. not cited.
Type: Jamaica, *Higson s.n.* (HOLOTYPE: K!).
Notes: A synonym of *Gonolobus stapelioides* Desv. ex Ham. fide Adams (1972).

Fisheria havanensis Decne. in DC., Prodr. 8:601. 1844.
Protologue: "in insula Cuba (Ramon de la Sagra, n. 556). (v.s.h. DC.)."
Type: Cuba, *Ramon de la Sagra 555* [*556* fide Decne. in DC., Prodr. 8:601.] (HOLOTYPE: G-DC [IDC microfiche Candolle Prodromus Herbarium, fiche # 1542!]), photos at MO, n.v., F, n.v.).
Notes: A synonym of *Fischeria scandens* DC. fide Murphy (1986).

Fischeria multiflora Decne. in DC., Prodr. 8:601. 1844.
Protologue: "in Brasilia (cl. Martius) (v.s.h. reg. monac.)."
Type: Brazil, *Martius s.n.* (HOLOTYPE: M, n.v.; ISOTYPE: M, n.v.).
Notes: Murphy (1986) considered *F. multiflora* Decne. a synonym of *F. stellata* (Vell.) E. Fourn. The latter is the only species of *Fischeria* she recognized from Trinidad.

Fischeria multiflora Griseb., Fl. Brit. W.I. 421. 1862, err.cit. [=*F. multiflora* Decne.].
Notes: In contrast to Grisebach himself (loc. cit.), Schlechter (1899) believed that Grisebach's *F. multiflora* did not belong to Decaisne's Brazilian species by the same name, but rather to *F. havanensis* Decne. Cheesman (1947) accepted this as well. Murphy (1986) considered *F. havanensis* Decne. a synonym of *F. scandens* DC., but did not recognize this taxon from Trinidad, the locality from which Grisebach (loc. cit) cited his *F. multiflora* (based on Purdie and Crueger collections). Murphy (1986) recognized only *F. stellata* (Vell.) E. Fourn.—under which she submerged *F. multiflora* Decne.—from the island.

Fischeria scandens DC., Cat. Pl. Horti Monsp. 112. 1813.
Protologue: "Hab. verosimiliter in America meridionali. Habuimus ex horto Madritensi," "h. monsp. inedit. t. 67."
Type: America meridionali, hort. monsp. ined., t. 67 (HOLOTYPE: MPU, n.v.).
Notes: *Fischeria scandens* is the only species of *Fischeria* recognized by Murphy (1986) from the Greater Antilles.

Fischeria stellata (Vell.) E. Fourn. in Mart., Fl. Bras. 6:301. 1885.
See *Cynanchum stellatum* Vell.

Gonolobus absalonensis Krings, Syst. Bot. 32:181. 2007.
Protologue: "Martinique. Absalon, Près la cascade, Mai 1910 (fl), Herb. d'Alleizette *s.n.* [*4801*?] (HOLOTYPE: L!)."
Type: Martinique, Absalon, Près la cascade, May 1910, Herb. d'Alleizette *s.n.* [*4801*?] (HOLOTYPE: L!).

Gonolobus bakeri Schltr. in Urban, Symb. Antill. 7(3):341. 1912.
Protologue: "Hab. in Cuba cult. in Santiago de las Vegas: *C.F. Baker n. 7286*, flor. m. Majo 1907," loc. not cited.
Type: Location of type is unknown. No additional matching material was located from which a lectotype or neotype could be designated. See Krings (2008) for a discussion of this taxon.

Gonolobus bayatensis Urb., Symb. Antill. 9(3):420. 1925. ≡ **Matelea bayatensis** (Urb.) Woodson, Ann. Missouri Bot. Gard. 28:226. 1941.

Protologue: "Prov. Oriente prope Bayate, m. Oct. flor.: Arth. Engström in herb. Ekman n. 3056," loc. not cited.
Type: Cuba, Oriente, Bayate, 9 Oct 1914, *Engström 3056* (LECTOTYPE, here designated: S!; ISOLECTOTYPE: NY!).
Notes: Two sheets of *Engström 3056* are extant—one at S and one at NY. The sheet at S is superior in condition to the NY sheet, exhibiting much more floral and vegetative material and is therefore designated lectotype. See Krings (2005c) for additional notes on this species.

Gonolobus bicolor (Britton & P.Wilson) Urb., Symb. Antill. 9(3):421. 1925. ≡ **Matelea bicolor** (Britton & P. Wilson) Woodson, Ann. Missouri Bot. Gard. 28:236. 1941.
See *Marsdenia bicolor* Britton & P. Wilson.

Gonolobus broadwayae Schltr. in Urb., Symb. Antill. 7(3):340. 1912.
Protologue: "in Trinidad, ad St. Clair Experiment Station inter Bambusas volubilis: *W.E. Broadway n. 2743*," loc. not cited; 'ad Santa Cruz: *López* (Herb. Broadway n. 2419),' loc. not cited.
Type: Trinidad, *López 2419* (LECTOTYPE, here designated: Z!).
Notes: Of the two syntypes cited in the protologue, only *López 2419* (Z) appears to be extant. *Gonolobus broadwayae* Schltr. is a synonym of *G. rostratus* (Vahl) Schult.

Gonolobus ciliatus Schltr. in Urban, Symb. Antill. 1(2):282. 1899.
Protologue: "Tobago, in silvis prope Frenchfield, alt. 400 ped., Oct.: *Eggers 5561*," loc. not cited; 'Trinidad, prope La Ventilla: *Crüger* s.n.,' loc. not cited; 'Venezuela,' loc. not cited.
Type: Tobago, *Eggers 5561* (LECTOTYPE, here designated: P!; ISOLECTOYPE: UCWI!).
Notes: Unidentified as a type, *Eggers 5561* had been filed at P with *Matelea denticulata* (Vahl) Fontella & E.A. Schwarz. The *Crüger* specimen could not be located. *Gonolobus ciliatus* Schltr. is a synonym of *G. denticulatus* (Vahl) W.D. Stevens.

Gonolobus cinctus (Griseb.) Benth. & Hook. f. ex B.D. Jacks., Index Kewensis 1:1054. 1895.
See *Fischeria cincta* Griseb.

Gonolobus cinctus (Griseb.) Benth., Gen. Pl. 2:750. 1876, err.cit. [= **Gonolobus stapelioides** Desv. ex Ham.].
Notes: This combination is not valid, as the epithet of the basionym—*Fischeria cincta* Griseb.—was not definitely associated with the genus *Gonolobus*.

Gonolobus denticulatus (Vahl) W.D. Stevens, Phytologia 64:334. 1988.
See *Cynanchum denticulatum* Vahl.

Gonolobus dictyopetalus Urb. & Ekman, Ark. Bot. 20A(5):41. 1926. ≡ **Matelea dictyopetala** (Urb. & Ekman) Krings, J. Bot. Res. Inst. Texas 2:130. 2008.
Protologue: Haiti, "Massif de la Selle in Morne Cabaio ad Jardin Bois [...] n. H. 1625," loc. not cited.
Type: Haiti, Massif de la Selle, Morne Cabaio, ca. 1900 m, 24 Aug 1924, *Ekman H 1625* (LECTOTYPE, here designated: S!; ISOLECTOTYPE: IJ! – fragment [single leaf]).
Notes: Two sheets of *Ekman H 1625* are known—one at IJ and another at S. Whereas the sheet at IJ consists of a stem fragment with a single leaf (plus several more leaf fragments and a flower bud in the fragment pocket), the sheet at S (determined in Urban's hand) consists of numerous leaves and flowers and is in good condition. Ekman specimens were sent to Urban at B for critical study (Howard, 1952; Nordenstam et al., 1994). Nordenstam et al. (1994) noted that Urban was to identify and publish on the work of Ekman and return the principal (full) set of vascular and non-vascular plants to Stockholm (S). Nordenstam et al. (1994) also noted that it is obvious that Urban returned the original specimens to Stockholm as many Ekman sheets are annotated as types in Urban's handwriting. Urban could keep one duplicate of the material upon which any of his and Ekman's publications were based (Nordenstam et al., 1994). Urban published a number of names

in West Indian Gonolobinae based on Ekman material and it can be assumed that holotypes were kept at B. However, all of Gonolobinae types at B were destroyed in World War II, necessitating lectotypification.

Gonolobus domingensis Alain, Moscosoa 1(3):46. 1978. ≡ **Matelea domingensis** (Alain) Krings, Sida 21:2081. 2005.

Protologue: "Loma Isabel de Torres, Puerto Plata [...] *Alain & Perfa Liogier 13780* (SDM, NY); en bosque, id. *A. & P. Liogier & N. Melo 23348* (SDM)."

Type: Dominican Republic, estribo sur del Isabel de Torres, Puerto Plata, alt. 750 m, 16–17 Aug 1975 (fl), *Alain & Perfa Liogier 23780* (LECTOTYPE designated by Krings 2005d: JBSD!).

Notes: See Krings (2005d) for a detailed discussion of lectotypification of this taxon.

Gonolobus dussii Krings, Syst. Bot. 32:183. 2007.

Protologue: "Guadeloupe. Chemin de la Soufrière, alt. 500 m, *Quentin 732* (HOLOTYPE: P!-fl; ISOTYPE: GH!-fl)."

Type: Guadeloupe, Chemin de la Soufrière, alt. 500 m, *Quentin 732* (HOLOTYPE: P!-fl; ISOTYPE: GH!-fl).

Gonolobus ekmanii Urb., Symb. Antill. 9(3):422. 1925. ≡ **Matelea ekmanii** (Urb.) Woodson, Ann. Missouri Bot. Gard. 28:226. 1941.

Protologue: "Prov. Oriente in Sierra Maestra inter Rio Yara et Rio Palmamocha cr. 1300 m. alt., m. Jul. flor., n. 14453," loc. not cited.

Type: Cuba, *Ekman 14453* (LECTOTYPE, here designated: S!; ISOLECTOTYPE: NY!).

Notes: Two sheets of *Ekman 14453* are held at S. One sheet holds a nicely, openly pressed flower in its fragment pocket. Considering that the condition of both sheets is otherwise comparable, the sheet with the openly pressed flower in the fragment pocket is here designated lectotype. As accession numbers are the same on both sheets, the lectotype can be identified by the label header: "Mus. Botan. Stockholm. Plantae Indiae Occidentalis N:o 14453" [sic].

Gonolobus floccosus Bertol., Opusc. Sci. 4:225. 1823.

Protologue: "[...] ex Guadalupa, et Portorico," Anonymous (loc. not cited).

Type: Guadeloupe, *Anonymous s.n.* (HOLOTYPE: BOLO!).

Notes: A synonym of *Matelea maritima* (Jacq.) Woodson.

Gonolobus grenadensis Schltr. in Urban, Symb. Antill. 7(3):339. 1912.

Protologue: "in Grenada ad Annandale, *W.E. Broadway n. 3477*," loc. not cited.

Type: Grenada, St. Mark Parish, Wooded hillsides near Victoria, elev. 100–300 ft, 24 Nov 1957, *G.R. Proctor 17225* (NEOTYPE, here designated: IJ!).

Notes: Based on Schlechter's (1912) description, *Gonolobus grenadensis* Schltr. is a synonym of *Gonolobus denticulatus* (Vahl) W.D. Stevens. Schlechter (1912) considered it a close relative to *G. ciliatus* Schltr. (also a synonym of *G. denticulatus*), from which he distinguished it only by larger leaves and flowers. Howard (1989b) also treated *G. grenadensis* as a synonym of *G. denticulatus*, although confusing it with *G. martinicensis* in key and description (though not in illustration). Unfortunately no original material of *G. grenadensis* could be located. *Proctor 17225* (IJ) appears to be the only extant specimen of this taxon from Grenada. It is here designated neotype.

Gonolobus grisebachianus Schltr. in Urban, Symb. Antill. 1(2):287. 1899. ≡ **Matelea grisebachiana** (Schltr.) Alain, Mem. Soc. Cub. Hist. Nat. "Felipe Poey" 22:120. 1955.

Protologue: "Cuba, loco speciali haud indicato: *Wright s.n.*," loc. not cited.

Type: Location of type is unknown. No additional matching material was located.

Gonolobus haitiensis P.T. Li, J. South China Agric. Univ. 14(1):58. 1993.

Type: Haiti, Massif du Nord, St. Louis du Nord, Morne Baron, 950 m, 20 Aug 1925, *E.L. Ekman 4693* (HOLOTYPE: S!; ISOTYPES: B!, US!).

Notes: A nomen nov. for *Gonolobus stipitatus* Alain, Phytologia 64:345. 1988, non Morillo, 1987. Krings (2008) considered *G. haitiensis* a synonym of *Matelea crispiflora* (Urb.) J. Jiménez Alm.

Gonolobus iyanolensis Krings, Syst. Bot. 32:185. 2007.
Protologue: "St. Lucia. Gros Piton, 9 Aug 1996 ["9/8/76"] (fl), *Roger Graveson 107* (HOLOTYPE: GH!)."
Type: St. Lucia, Gros Piton, 9 Aug 1996 ["9/8/76"], *Roger Graveson 107* (HOLOTYPE: GH!).
Notes: Roger Graveson noted that the collection date is incorrect on the label of the type and should be 9 Aug 1996 instead (Graveson, pers. comm.).

Gonolobus jamaicensis Rendle, J. Bot. 74:345. 1936.
Type: Jamaica, near Vinegar Hill, climbing up trees to height of 20 ft, 4200 ft elev., 5 Jun 1896, *Harris 6368* (HOLOTYPE: BM!).
Notes: *Gonolobus jamaicensis* was proposed by Rendle as a nomen novum for the Jamaican endemic taxon Schlechter (1899) attributed to *G. rostratus* (Vahl) R.Br. Robert Brown never made the combination attributed to his Memoirs of the Wernerian Natural History Society 1:35. 1810. The true *Gonolobus rostratus* (Vahl) Schult. is known only from Trinidad in our area and is based on the type of *Cynanchum rostratum* Vahl. Because Rendle corrected a misapplication, his name—*G. jamaicensis*—is a new species name, not a nomen novum as he incorrectly stated. A nomen novum is an avowed substitute (replacement name) for a validly published but illegitimate name, the type of which would be the same as that of the name which it replaced.

Gonolobus maritimus (Jacq.) R.Br., Mem. Wern. Nat. Hist. Soc. 1: 24. 1810. ≡ **Matelea maritima** (Jacq.) Woodson, Ann. Missouri Bot. Gard. 28:222. 1941.
See *Asclepias maritima* Jacq.

Gonolobus maritimus (Jacq.) R.Br. ex Schult. in Roemer & Schultes, Syst. Veg. 6:59. 1820, err. cit. [=*G. maritimus* (Jacq.) R.Br.]
Notes: Brown (1810) validly and effectively published the combination *Gonolobus maritimus* (Jacq.) R.Br. The sometimes mistakenly cited combination *Gonolobus maritimus* (Jacq.) R.Br. ex Schult., Syst. Veg. 6:59. 1820, is an error in citation as Schultes clearly accepted Brown's combination, correctly additionally citing Jacquin.
See *Asclepias maritima* Jacq.

Gonolobus martinicensis Decne. in De Candolle, Prodr. 8:595. 1844.
Protologue: "in Martinicae sylvis umbrosis, (cl. *Plée.*) *Tourimibi* Caribeorum *Plum. et Surian 821* (v.s.h. Mus. par.)."
Type: Martinique, *Pleé s.n.* (LECTOTYPE designated by Krings 2007: P!).
Notes: Two syntypes were cited in the protologue, but only *Pleé s.n.* (P) could be re-located. *Plum. et Surian 821* could not be found.

Gonolobus membranaceus Schltr. in Urban, Symb. Antill. 1(2):285. 1899.
Protologue: "Haiti, loco speciali haud indicato: *Poiteau s.n.*," loc. not cited.
Type: The location of the type remains unknown. No additional matching material was found.
Notes: *Ekman H4693* (IJ!) is labelled *Gonolobus membranaceus*. The specimen consists of mostly stem and 3–4 leaf fragments held in a fragment pocket. It appears to match *Poicillopsis crispiflora* Urb. *Gonolobus membranaceus* is likely very closely related to *Matelea haitiensis* as, based on the protologues, the two appear to differ only in the shape and apices of the leaf blades and calyx lobes. Additional collections and discovery of the type may prove them synonymous.

Gonolobus nipensis Urb., Symb. Antill. 9(3):421. 1925. ≡ **Matelea nipensis** (Urb.) Woodson, Ann. Missouri Bot. Gard. 28:226. 1941.
Protologue: "Prov. Oriente in Sierra de Nipe ad pedem Loma Mensura in savannis pinetorum umbrosis cr. 725 m. alt., m. Jul. flor.: n. 9710," loc. not cited.

Type: Cuba, Oriente, Sierra de Nipe, Loma Mensura, ca. 725 m, 11 Jul 1919, *Ekman 9710* (LECTOTYPE, here designated: S!; ISOLECTOTYPE: NY!).
Notes: *Ekman 9710* (S) is a superior specimen relative to *Ekman 9710* (NY) in that it bears many more leaves, inflorescences, and flowers. It is here designated lectotype for *Gonolobus nipensis*.

Gonolobus pauciflorus Spreng., Syst. Veg. 1:846. 1824. ≡ **Matelea pauciflora** (Spreng.) Woodson, Ann. Missouri Bot. Gard. 28:226. 1941.
Protologue: "Hispaniola, *Bertero*," loc. not cited.
Type: Hispaniola: 'St. Domingue,' *Bertero s.n.* (LECTOTYPE designated by Krings 2006: P!; ISOLECTOTYPE: G-DC [IDC microfiche Candolle Prodromus Herbarium, fiche # 1543!]).
Notes: Bertero collections were among specimens in the fragmented Sprengel collection acquired by B in 1890, but no Bertero specimen corresponding to *G. pauciflorus* was found extant at that institution. As neither extant duplicate of *Bertero s.n.* at either G-DC or P corresponding to *G. pauciflorus* bears the hand of Sprengel and as no other Bertero material corresponding to the taxon has been located at the other institutions queried (see Acknowledgments), it is assumed that the holotype was destroyed. Consequently, having been able to examine the specimen at P, but only the microfiche of the specimen at G-DC, Krings (2006) designated the sheet at P lectotype for *G. pauciflorus*.

Gonolobus pubescens Griseb., Fl. Brit. W.I. 420. 1862. ≡ **Matelea pubescens** (Griseb.) Krings, J. Bot. Res. Inst. Texas 2:131. 2008.
Protologue: "Jamaica, *Macf.*," loc. not cited.
Type: Jamaica, *Macfadyen s.n.* (HOLOTYPE: GOET!; ISOTYPE: K!).
Notes: The GOET specimen consists of an unmounted section of stem with five nodes, but only three developed leaves. A fourth developed leaf and a fragment of a fifth are loose in the pocket. A smaller fragment pocket contains floral parts. *Macfadyen s.n.* (K) is a superior specimen relative to *Macfadyen s.n.* (GOET) in bearing many more leaves, as well as an openly pressed flower kept in the fragment pocket. Both the K and GOET specimens are annotated in Grisebach's hand.

Gonolobus rhamnifolius Griseb., Fl. Brit. W.I. 420. 1862. ≡ **Matelea rhamnifolia** (Griseb.) Krings, Sida 21:1515. 2005.
Protologue: "Jamaica!, *Al.*, S. Anns, near Moneague," loc. not cited.
Type: Jamaica, *R.C. Alexander s.n.* (HOLOTYPE: GOET!).
Notes: See Krings (2005a) for a discussion of the morphology of this taxon. The type locality was visited on an expedition to Jamaica by the present author and Dale Suiter in March 2006. However, the area was unfortunately flooded (houses under 10–15 feet of water) and inaccessible. The species was not observed on any of the access roads up to the flooded valley. Dr. George Proctor noted collecting a specimen in a narrow patch of woods between a road and a pasture. The area appears to be in similar condition currently, with many pastures separated from rural roads by narrow patches of woods.

Gonolobus rostratus (Vahl) Schult. in Roemer & Schultes, Syst. Veg. 6:61. 1820.
Notes: Schultes (1820) cited Vahl's protologue of *Cynanchum rostratum* (see above) and attributed the combination in *Gonolobus* to Robert Brown. However, as Brown never made the combination in *Gonolobus* that has been attributed to him, Schultes should be considered the author of the valid combination.
See *Cynanchum rostratum* Vahl.

"*Gonolobus rostratus*" auct. non (Vahl) Schult.: Schlechter in Urb., Symb. Antill. 1:284. 1899.
Notes: Schlechter (1899) mistakenly attributed a Jamaican entity to the name *Gonolobus rostratus* (Vahl) R.Br., for which Rendle later proposed the name *G. jamaicensis* (see above). Robert Brown never made this combination attributed to him (see Memoirs of the Wernerian Natural History Society 1:35. 1810).
See also *Cynanchum rostratum* Vahl.

"*Gonolobus scandens* (Aubl.) Urb.," Repert. Spec. Nov. Regni Veg. 16:151. 1919; nom. illeg.

Notes: Based on an invalid polynomial—*Periploca scandens* Aubl., Histoire des plantes de la Guiane Françoise 2 (Tabl. Nom. Lat.):23. 1775. 260. See Nicolson (1991) for a discussion.

Gonolobus scandens Urb., Repert. Spec. Nov. Regni Veg. 16:151. 1919; nom. illeg.
Notes: A superfluous name and synonym of *Gonolobus martinicensis* Decne. (Prodromus Systematis Naturalis Regni Vegetabilis 8:595. 1844.).

Gonolobus sintenisii Schltr. in Urban, Symb. Antill. 1(2):288. 1899. ≡ **Matelea sintenisii** (Schltr.) Woodson, Ann. Missouri Bot. Gard. 28:226. 1941.
Protologue: "Portorico, Sierra de Luquillo, in regione superiore montis Jimenes in silvis, Jul. 1885: *Sintenis n. 1354*; in silva primaeva montis Andubo prope Adjuntas, Jun. 1886: *Sintenis n. 4643*," loc. not cited.
Type: Puerto Rico, Sierra de Luquillo, Jiménez mts., 9 Jul 1885, *Sintenis 1354* (LECTOTYPE, here designated: HBG!; ISOLECTOTYPES: BM!, G!, GH!, K!, US!).
Notes: Among the syntypes, *Sintenis 1354* (HBG) is chosen as lectotype as the specimen bears flowers in relatively superior condition to the duplicates under this number. The two specimens respectively at G and GH are sterile. The K specimen bears a single flower in bud. Specimens of *Sintenis 4643* could not be located.

Gonolobus stapelioides Desv. ex Ham., Prodr. Pl. Ind. Occid. 32. 1825.
Protologue: "Habitat in fruticetis circa Alfred Hall, prope Scarborough, Tobago, cum *Echite quinquangulare* etc. ubi florentem inveni mense Octobris (V. et S. v.)," loc. not cited.
Type: Jamaica, Portland Parish, 0.5 mi N of Hardwar Gap, uphill from the trail above the "Waterfall," ca. 3900 ft, montane rainforest, vines growing over trailside shrubs and in small forest openings, population J1, 3 Mar 2006, *A. Krings 1395 with D. Suiter and G.R. Proctor* (neotype: P!, designated by Krings 2008; isoneotypes: BM!, IJ!, NCSC!, NY!).
Notes: Schlechter (1899) noted that there was likely a label mix-up between the Jamaican entity *G. stapelioides* and the Tobagoan *G. virescens* Ham. It would indeed be unlikely for *G. stapelioides* to be limited in distribution to Jamaica and Tobago. The taxon is not represented by any other specimens from Tobago. Similarly, *G. virescens* is not known from Jamaica by another specimen. A neotype is proposed as the holotype could not be found.

Gonolobus stellatus Griseb., Fl. Brit. W.I. 420. 1862.
Protologue: "Jamaica!, *Pd.*, Manchester, rare, near Knockpatrick," loc. not cited.
Type: Jamaica, *Purdie s.n.* (HOLOTYPE: GOET!; ISOTYPES: BM!, K!).
Notes: *Purdie s.n.* (K) is the best specimen of the three extant sheets. It bears numerous leaves, inflorescences, and an openly pressed flower. The specimen also bears an annotation in Grisebach's hand. The specimen at BM is also in good condition, bearing a nicely preserved flower. However, this specimen does not bear annotations in Grisebach's hand. The specimen at GOET consists entirely of fragments (two leaves and immature flowers in bud; no stem).

Gonolobus stephanotrichus Griseb., Cat. Pl. Cub. 177. 1866.
Protologue: "Cuba or. (*Wr. 2969* [...]," loc. not cited.
Type: Cuba, 1860–1864, *Wright 2969*(LECTOTYPE, designated by Krings & Fantz 2006: GOET!; SYNTYPES: BM!, BREM!, G!, GH!, HAC!, K!, MO, NY!, P!, UC!, US!).
Notes: The Wright collection of *G. stephanotrichus* at S bears the number 164 and does not appear to be part of the type collection. See Krings and Fantz (2006) for a detailed discussion of the lectotypification of *G. stephanotrichus*.

Gonolobus stipitatus Alain, Phytologia 64(5):345. 1988, nom. illeg.; non *Gonolobus stipitatus* Morillo, 1987. = *Gonolobus haitiensis* P.T.Li, J. South China Agric. Univ. 14(1):58. 1993.
Protologue: "Haiti: On hard limestone, Massif du Nord, St. Louis du Nord, on top of Morne Baron, Jul 20, 1925, *Ekman 4693* (HOLOTYPUS: S)."
Type: Haiti, Massif du Nord, St. Louis du Nord, Morne Baron, 20 Aug 1925, *Ekman H 4693* (HOLOTYPE: S!; ISOTYPES: B!, US!).

"*Gonolobus suberosus*" auct. non (L.) R.Br.: Spreng., Syst. Veg. 1:846. 1824.
Notes: Cited as *Gonolobus suberosus* Spreng. by Schlechter (1899) and Woodson (1941), although Sprengel (1824) clearly cited Robert Brown as author of the combination in *Gonolobus* based on the basionym *Cynanchum suberosum* L. Although the typification of *C. suberosum* L. is complex (Drapalik 1969; Reveal & Barrie 1992) , the basionym has most recently been recognized to apply to the single *Gonolobus* species in the southeastern United States (see Krings & Xiang 2004, 2005). Schlechter (1899) and Woodson (1941) considered Sprengel's *G. suberosus* to be a synonym of what is now known as *Matelea maritima* (Jacq.) Woodson. Sprengel's description is not inconsistent with their decision.

Gonolobus tigrinus Griseb., Mem. Amer. Acad. Arts 8:520. 1863. ≡ **Matelea tigrina** (Griseb.) Woodson, Ann. Missouri Bot. Gard. 28:226. 1941.
Protologue: "[*Wright*] (*1667*)," loc. not cited.
Type: Cuba, Holguín, 19 Mar, *Wright 1667* (LECTOTYPE, here designated: GOET, n.v., fide Howard 1989a; SYNTYPES: MO [image online!], G!, GH!, K!).
Notes: Specimens distributed under *Wright 1667* were collected by Wright from at least two different localities at two different times (GH: "in coffee fields, Josephina, Nov 1"; GOET: "Holguin, 19 Mar"). Krings (2005c) mistakenly stated that Howard lectotypified *G. tigrinus* based on *Wright 1667* at GOET. However, Howard's "lectotypification" (1989a) appeared in a microfiche appendix, not in print, and thus is not effectively published and has no standing in nomenclature. Rankin & Greuter (2000) reported a similar case in Antillean *Aristolochia*.

Gonolobus tigrinus Griseb. var. *angustifolius* Griseb., Cat. Pl. Cub. 177. 1866.
Protologue: "*Wr.* [*Wright*]," loc. not cited.
Type: The location of the type remains unknown. No additional matching material was found.
Notes: This taxon was recognized at the specific rank by Schlechter (1899) as *G. grisebachianus* Schltr.

Gonolobus tobagensis Urb., Repert. Spec. Nov. Regni Veg. 16:37. 1919.
Protologue: "in Tobago in districtu The Widow nominato, m. April. flor, *W.E. Broadway no. 4467* [loc. not cited]."
Type: Tobago, the Widow, 28 Apr 1913, *W.E. Broadway 4467* (LECTOTYPE, here designated: BM!).
Notes: Among the great bulk of collections received by Urban from Erik Ekman (Cuba and Hispaniola) and William Harris (Jamaica), are specimens sent to him by W.E. Broadway from Trinidad, Tobago, and Grenada. Holotypes are presumed to have remained at B until their destruction in a fire in World War II. There is no indication on *Broadway 4467* (BM) that it was seen by Urban, but as the only apparently extant sheet of the number cited by Urban in the protologue, it is here designated lectotype of *G. tobagensis*.

Gonolobus variifolius Schltr. in Urban, Symb. Antill. 1(2):286. 1899. ≡ **Matelea variifolia** (Schltr.) Woodson, Ann. Missouri Bot. Gard. 28:226. 1941.
Protologue: "Portorico, Sierra de Luquillo, in regione media montis Jimenes in fruticetis, Jun. 1885: *Sintenis n. 1653*,' loc. not cited; 'montis Cienega prope Adjuntas, Jun. 1886: *Sintenis n. 4687*," loc. not cited.
Type: Puerto Rico, Sierra de Luquillo, Jiménez mts., Jun 1885, *P. Sintenis 1653* (LECTOTYPE, here designated: NY!; ISOLECTOTYPES: G!, GH!, MO!, P!, US!); *P. Sintenis 4687* (SYNTYPE: K!).
Notes: *Sintenis 1653* (NY) is here designated as lectotype for *Gonolobus variifolius* Schltr. as, unlike the other specimens, it bears a diversity of leaves, a number of inflorescences, and flowers.

Gonolobus viridiflorus Schult. in Roemer & Schultes, Syst. Veg. 6:61. 1820.; nom. illeg., non *G. viridiflorus* Nutt. (1818).
Protologue: "*Meyer*," loc. not cited.
Type: unknown.
Notes: Schultes (1820) clearly cited Meyer's basionym, *Cynanchum viridiflorum*. However, *C. viridiflorum* G. Mey. is illegitimate, being a later homonym of *C. viridiflorum* Sims (1817). The basionym epithet is not available in *Gonolobus* due to the earlier *G. viridiflorus* Nutt. (1818). Most recent authors have accepted this entity

under the name *Matelea denticulata* (Vahl) Fontella & E.A. Schwarz (Boletim do Museu Botanico Municipal 46:4. 1981.), although, as it emerged in a clade of *Gonolobus* s.l. (Krings et al. 2008) the name *G. denticulatus* (Vahl) W.D. Stevens is preferable.

Gonolobus waitukubuliensis Krings, Syst. Bot. 32:187. 2007.
Protologue: "Dominica. In sylvis ad Laudat, Mai 1882 (fl), *Eggers 728* (HOLOTYPE: HBG! [2 sheets]; ISOTYPES: FR!, G!, GH!, JE!, M!, W!, Z!)."
Type: Dominica, in sylvis ad Laudat, May 1882, *Eggers 728* (HOLOTYPE: HBG! [2 sheets]; ISOTYPES: FR!, G!, GH!, JE!, M!, W!, Z!).

Gonolobus youroumaynensis Krings, Syst. Bot. 32:191. 2007.
Protologue: "Orange Hill Estate, roadbank in banana and pigeon pea plantations, uphill from fork in road to the C.W.S.A. water intake site, Kiss-me, 14 Mar 2006 (fl), *Krings 1374 with Springer* (HOLOTYPE: NCSC!; ISOTYPES: GH!, K!, NY!, US!, P!)."
Type: St. Vincent, Orange Hill Estate, roadbank in banana and pigeon pea plantations, uphill from fork in roSad to the Central Water and Sewage Authority water intake site, Kiss-me, 14 Mar 2006, *Krings 1374 with Springer* (HOLOTYPE: NCSC!; ISOTYPES: GH!, K!, NY!, US!, P!).

Holostemma candolleanum Spreng., Syst. Veg. 1:851. 1824, nom. illeg.
Notes: Sprengler (loc. cit.) cited *F. scandens* DC. in synonymy, thus making his name illegitimate. Schlechter (1899) placed Sprengler's name in synonymy under *Fischeria crispiflora* (Sw.) Schltr.—a later homonym of *F. crispiflora* (Sw.) K. Schum.—which he misapplied to the taxon recognized by Murphy (1986) as *F. scandens* DC.

Ibatia maritima (Jacq.) Decne. in De Candolle, Prodr. 8:599. 1844. ≡ **Matelea maritima** (Jacq.) Woodson, Ann. Missouri Bot. Gard. 28:222. 1941.
See *Asclepias maritima* Jacq.

Ibatia mollis Griseb., Cat. Pl. Cub. 177. 1866. ≡ **Matelea mollis** (Griseb.) Woods., Ann. Missouri Bot. Gard. 28:223. 1941.
Protologue: "Cuba occ. - pr. La Concordia (*Wr. 2978*)," loc. not cited.
Type: Cuba, *Wright 2978* (LECTOTYPE, here designated: GH!; SYNTYPES: K!, MO! [image online]).
Notes: See discussion under *Gonolobus tigrinus* regarding problems of typification of Grisebach names based on Wright collections. Unfortunately, there is no extant Wright material of number 2978 at GOET. However, a specimen does exist at GH, which can be designated lectotype following Howard (1989a). Two elements are mounted on the sheet—one with flowers and one with fruits. As fruits were not mentioned in the protologue, the flowering element of *Wright 2978* (GH) is here designated as lectotype for *Ibatia mollis* Griseb. Other combinations include: *Ptycanthera mollis* (Griseb.) Schltr. in Urb., Symb. Antill. 1(2):280. 1899.

Ibatia muricata Griseb., Fl. Brit. W.I. 421. 1862.
Protologue: "Antigua!, *Wullschl.*, Dominica!, *Imr.*; [Guadeloupe! ; Venezuela!]," loc. not cited.
Type: Antigua, Cedar Hall, 1849, *Wullschlagel* (LECTOTYPE designated by Krings & Saville 2007: M! [2 sheets])
Notes: Although not identified as a type, the material at M was the only Wullschlagel specimen from Antigua found in the course of a study by Krings and Saville (2007) and was designated lectotype of *Ibatia muricata*. Grisebach's name is a synonym of *Matelea maritima* (Jacq.) Woodson, Ann. Missouri Bot. Gard. 28:222. 1941.

Jacaima costata (Urb.) Rendle, J. Bot. 74:340. 1936. ≡ **Matelea costata** (Urb.) Morillo, Anales Jard. Bot. Madrid 43:239. 1987 ["1986"].
See *Poicilla costata* Urb.

Jacaima costata (Urb.) Rendle var. *goodfriendii* Proctor, J. Arnold Arbor. 63:290. 1982. ≡ **Matelea costata** (Urb.) Morillo var. **goodfriendii** (Proctor) Krings, **comb. nov.**

Protologue: "St. Ann: Cedar Valley distr., ca. 1.5 mi NE of Cave Valley Square, ca. 2000 ft, *Goodfriend s.n.* (IJ 65657), May 17, 1977 (flowers) (HOLOTYPE), *Goodfriend s.n.* (IJ 66697), Jul 1977 (fruit)."
Type: Jamaica, St. Ann: Cedar Valley distr., ca. 1.5 mi NE of Cave Valley Square, wooded limestone hills, ca. 2000 ft, 17 May 1977, *Goodfriend s.n.* (HOLOTYPE: IJ!); Jul 1977, *Goodfriend s.n.* (PARATYPE: IJ!).

Jacaima parvifolia Proctor, J. Arnold Arbor. 63:291. 1982. = **Matelea proctori** Krings, **nom. nov.**
Protologue: "Clarendon: Broom Hall hills, 1.2 mi SW of Cave Valley Square, 1800–2000 ft, *Proctor 37887*, Jul 9, 1978 (HOLOTYPE)."
Type: Jamaica, Clarendon: Broom Hall hills, 1.2 mi SW of Cave Valley Square, 1800–2000 ft, 9 Jul 1978, *Proctor 37887* (HOLOTYPE: GH!; ISOTYPE: IJ!).
Notes: A new name is required as a new combination in *Matelea* is blocked by *M. parvifolia* (Torr.) Woodson. As *Proctor 37887* (IJ) is labelled isotype, it is assumed that the GH duplicate was intended to serve as the holotype. Dr. Proctor accompanied the current author, Dale Suiter, and Davian Campbell, on an expedition to the type locality in March of 2006. At the time the type was described the area was called Broom Hall and the valley was mostly in pineapple cultivation (Proctor, pers. comm.). On a change of ownership, the area is now mostly in coffee and under the name Baron Hall. Although the hills maintain forest cover, much is disturbed and has either been converted to coffee or is in the process of conversion. Specimens of *J. parvifolia* were not located. There are forests not owned by Baron Hall which are part of the endemic Peckham complex and may retain populations of *J. parvifolia*, but further research is needed.

Lachnostoma maritimum (Jacq.) G. Nicholson, Ill. Dict. Gard. 2:226. 1884. ≡ **Matelea maritima** (Jacq.) Woodson, Ann. Missouri Bot. Gard. 28:222. 1941.
See *Asclepias maritima* Jacq.

Lachnostoma mollis (Griseb.) M. Gómez, Anales Hist. Nat. 23:276. 1894. ≡ **Matelea mollis** (Griseb.) Woodson, Ann. Missouri Bot. Gard. 28:223. 1941.
See *Ibatia mollis* Griseb.

Macroscepis hirsuta (Vahl) Schltr. in Urban, Symb. Antill. 1:265. 1899. ≡ **Matelea hirsuta** (Vahl) Woodson in E.E. Cheesman, Fl. Trinidad 2:170. 1947.
See *Cynanchum hirsutum* Vahl.

"*Macroscepis obovata*" auct. non Kunth: Griseb., Fl. Brit. W.I. 421. 1862.
Notes: The most recent combination to which Grisebach misapplied the name *Macroscepis obovata* is *Matelea hirsuta* (Vahl) Woodson in E. E. Cheesman, Fl. Trinidad 2:170. 1947.
See *Cynanchum hirsutum* Vahl.

Marsdenia bicolor Britton & P. Wilson, Bull. Torrey Bot. Club 50:47. 1923. ≡ **Matelea bicolor** (Britton & P. Wilson) Woodson, Ann. Missouri Bot. Gard. 28:236. 1941.
Protologue: "Sierra Maestra, Oriente (*León 10787*, type; *10788*)," loc. not cited.
Type: Cuba, Oriente, Maestra ridge, 1300 m, Jul 1922, *León 10787* (HOLOTYPE: NY!; ISOTYPE: HAC, n.v.); Cuba, *León 10788* (PARATYPES: NY!, US!).
Notes: Although TROPICOS currently indicates the holotype to be at GH (as of 12 Apr 2006), the specimen is not listed in the GH online catalogue nor was it sent on loan or found in a targeted search by collection manager Emily Wood. In addition, there is a discrepancy in the label data, particularly the altitude of collection, for the paratype *Léon 10788*, suggesting that the sheets at NY and US are not duplicates of the same collection. The NY sheet indicates only "Maestra ridge, 1300 m," whereas the US sheet indicates "Woods: Sierra Maestra. Region of Pico Turquino. Alt. near 2000 m." Collector, collector number, and date are the same on both sheets.

Matelea acuminata (Griseb.) Woodson, Ann. Missouri Bot. Gard. 28:225. 1941.
See *Orthosia acuminata* Griseb.

Matelea alainii Woodson, Contr. Ocas. Mus. Hist. Nat. Colegio "De La Salle" 15:23. 1956.

Protologue: "Cuba: Oriente: on coastal limestone rocks, Km. 90 between Imías and Cajobabo, Vía Azul, Jan. 12, 1956," *Brother Alain & C.V. Morton 5029* (HT: MO); "on coastal limestone rocks. Km 50 of Via Azul, Jan 10, 1956," *Brother Alain & C.V. Morton 4959* (PT: MO).
Type: Cuba, *Alain & Morton 5029* (HOLOTYPE: MO; ISOTYPES: GH!, HAC!, US!); *Alain & Morton 4959* (PARATYPES: GH!, MO!, IJ!).

Matelea annulata Woodson ex Alain, Brittonia 20:149. 1968.
Protologue: "Hispaniola: Dominican Republic: Montiada Nueva, Barahona Prov., 21–25 Aug 1946, *R. & E. Howard 8512* (TYPE: NY; ISOTYPE: GH); Howard *8590* (GH)."
Type: Dominican Republic, Montiada Nueva, Barahona Prov., 21–25 Aug 1946, *R.A. & E.S. Howard 8512* (HOLOTYPE: NY! [2 sheets]; ISOTYPES: GH!, MO!).
Notes: Alain H. Liogier described *Matelea annulata* based on suggestions from Robert E. Woodson, Jr. and legitimized the latter's *nomen in schedula*. Three sheets were cited in the PROTOLOGUE: *R. & E. Howard 8512* (HT: NY!; IT: GH!) and *Howard 8590* (PT: GH!). The former two contain matching material. However, the latter collection (the paratype), which incidentally was also collected by both Howards, contains material that clearly does not belong to the holotype and isotype. Although also glabrous, leaves of *R. & E. Howard 8590* exhibit: (1) more numerous secondary veins, and (2) secondary veins nearly straight (vs. ascending in *R.& E. Howard 8512*). The seeds associated with *R. & E. Howard 8590* are also: (1) significantly longer (11–11.6 mm vs. 5 mm in *R. & E. Howard 8512*), (2) of a thin papery texture (vs. hardened in *R.& E. Howard 8512*), and (3) lack the distally swollen margin seen in *Howard 8512* (and other West Indian *Matelea* species). Although published as a paratype, *R. & E. Howard 8590* (GH) must be excluded from *Matelea annulata*. It remains unclear to what taxon it should be referred instead. Typification of *M. annulata* should be as indicated above. As a final note, in contrast to the indication by Liogier (1968), the flowers of *Matelea annulata* are not solitary. They appear to be borne sequentially on inflorescences subtended by a much reduced peduncle.

Matelea bayatensis (Urb.) Woodson, Ann. Missouri Bot. Gard. 28:226. 1941.
See *Gonolobus bayatensis* Urb.

Matelea bicolor (Britton & P. Wilson) Woodson, Ann. Missouri Bot. Gard. 28:236. 1941.
See *Marsdenia bicolor* Britton & P. Wilson.

Matelea borinquensis Alain, Phytologia 61:360. 1986.
Protologue: "Puerto Rico: Cerro Pelucho, San Lorenzo, alt. 400–500 m, Mar 8, 1984, *Alain & Perfa Liogier, Luis F. Martorell 35111* (holotypus: UPR)."
Type: Puerto Rico, *Liogier et al. 35111* (HOLOTYPE: UPR, n.v.).
Notes: A synonym of *Matelea variifolia* (Schltr.) Woodson fide Acevedo-Rodríguez (2005). This specimen could not be obtained on loan, despite requests.

Matelea constanzana J. Jiménez Alm., Rhodora 62:238. 1960.
Protologue: "in Sto. Domingo prope Constanza, inter frutices volubilis 1400 m. alt., *H. von Tuerckheim n. 3466*, flor. Jul. 1910," loc. not cited.
Type: The location of the type remains unknown. No additional matching material was found.
Notes: Nomen nov. for *Poicillopsis tuerckheimii* Schltr. in Urb., Symb. Antill. 7(3):339. 1912. Jiménez proposed the new name as Schlechter's epithet was unavailable in *Matelea*. The name is provisionally treated in *Matelea*, pending the rediscovery and study of the type.

Matelea correllii Spellman, Ann. Missouri Bot. Gard. 65(4):1255. 1979 ["1978"].
Protologue: "Bahama Islands. Long Island: ... low places along Queen's Highway about 4 miles north of Clarence Town center, 18 Nov. 1977, *D.S. Correll 49112* (MO, HOLOTYPE; F, FTG, GH, NY, US, ISOTYPES)."
Type: Bahamas, Long Island, *D.S. Correll 49112* (HOLOTYPE: MO; ISOTYPES: F!, FTG!, GH!, NY!, US!).

Matelea corynephora Krings, Sida 22:942. 2006.

Protologue: "Haiti. Ile la Tortue, la Vallée, top of Morne Barranca, ca. 300 m, 21 Mar 1928 (fl), *E.L. Ekman H9740* (HOLOTYPE: S!)."
Type: Haiti, Ile la Tortue, la Vallée, top of Morne Barranca, ca. 300 m, 21 Mar 1928, *E.L. Ekman H9740* (HOLOTYPE: S!).

Matelea costata (Urb.) Morillo, Anales Jard. Bot. Madrid 43:239. 1987 ["1986"].
See *Poicilla costata* Urb.

Matelea costata (Urb.) Morillo var. **goodfriendii** (Proctor) Krings, J. Bot. Res. Inst. Texas 2:150. 2008.
See *Jacaima costata* (Urb.) Rendle var. *goodfriendii* Proctor

Matelea crispiflora (Urb.) J. Jiménez Alm., Rhodora 62:238. 1960.
See *Poicillopsis crispiflora* Urb.

Matelea ekmanii (Urb.) Woodson, Ann. Missouri Bot. Gard. 28:226. 1941.
See *Gonolobus ekmanii* Urb.

Matelea denticulata (Vahl) Fontella & E.A. Schwarz, Bol. Mus. Bot. Munic. 46:4. 1981.
See *Cynanchum denticulatum* Vahl.

Matelea dictyopetala (Urb. & Ekman) Krings, J. Bot. Res. Inst. Texas 2:130. 2008.
See *Gonolobus dictyopetalus* Urb. & Ekman.

Matelea domingensis (Alain) Krings, Sida 21:2081. 2005.
See *Gonolobus domingensis* Alain.

Matelea grisebachiana (Schltr.) Alain, Mem. Soc. Cub. Hist. Nat. "Felipe Poey" 22:120. 1955.
See *Gonolobus grisebachianus* Schltr.

Matelea hastata Alain, Brittonia 20:150. 1968.
Protologue: "Haiti: Massif des Matheux, Croix des Bouquets, Morne a Cabrits, 18 Jul 1924, *Ekman H. 973* (**TYPE:** US; ISOTYPE: NY)."
Type: Haiti, *Ekman H 973* (HOLOTYPE: US!; ISOTYPES: K!, NY!)

Matelea hirsuta (Vahl) Woodson in E.E. Cheesman, Fl. Trinidad 2:170. 1947.
See *Cynanchum hirsutum* Vahl.

Matelea linearipetala Alain, Phytologia 64:346. 1988.
Protologue: "Haiti: On oligostene limestone, 200 m alt., Massif des Matheux, Thomazeau, Morne à Cabrits, Oct. 24, 1926, *E.L. Ekman 7136* (HOLOTYPUS: S)."
Type: Haiti, Morne à Cabrits, *Ekman H 7136* (HOLOTYPE: S!).

Matelea maritima (Jacq.) Woodson, Ann. Missouri Bot. Gard. 28:222. 1941.
See *Asclepias maritima* Jacq.

Matelea mollis (Griseb.) Woodson, Ann. Missouri Bot. Gard. 28:223. 1941.
See *Ibatia mollis* Griseb.

Matelea monticola Alain, Sida 20:1645. 2003.
Protologue: "Ciénaga de la Culata, Constanza, alt 1600–1700 m, 15–16 Oct 1968, *Alain Liogier 13029* (HOLOTYPE: NY; ISOTYPE: US); in woods, Cabezada de la Ciénaga de la Culata, Constanza, alt 1650 m, 16 Oct 1968, *Alain Liogier 13069* (NY, US)."
Type: Dominican Republic, Ciénaga de la Culata, Constanza, alt 1600–1700 m, 15–16 Oct 1968, *Liogier 13029* (HOLOTYPE: NY!).
Notes: A nom. nov. for *Matelea sylvicola* Alain, Phytologia 22:168. 1971, nom illeg., non L.O. Williams 1968. Neither isotype nor paratype are housed at US, despite so cited in the protologue. The paratype is also neither listed in the NY type catalogue, nor included in a loan from NY. Its location remains unknown.

Matelea nipensis (Urb.) Woodson, Ann. Missouri Bot. Gard. 28:226. 1941.
See *Gonolobus nipensis* Urb.

Matelea oblongata (Griseb.) Woodson, Ann. Missouri Bot. Gard. 28:226. 1941.
See *Orthosia oblongata* Griseb.

Matelea ovatifolia (Griseb.) Woodson, Ann. Missouri Bot. Gard. 28:225. 1941.
See *Poicilla ovatifolia* Griseb.

Matelea pauciflora (Spreng.) Woodson, Ann. Missouri Bot. Gard. 28:226. 1941.
See *Gonolobus pauciflorus* Spreng.

Matelea pentactina Krings, Sida 21:1519. 2005.
Protologue: "Haiti. Les Roseaux, Massif de la Hotte western group, rocky ledge, ca. 1300 m, 16 Sept 1928, *Ekman H 10685* (HOLOTYPE: S!); Massif de la Selle, gr. Crete-a-Piquants, Port-au-Prince, between Carrefour-Martin and Bois d'Orme, ca. 800 m, limestone, 17 Dec 1926, *Ekman H 7402* (paratype: S!)."
Type: Haiti, Les Roseaux, Massif de la Hotte western group, rocky ledge, ca. 1300 m, 16 Sept 1928, *Ekman H 10685* (HOLOTYPE: S!; ISOTYPES: B!, US!, EHH n.v.); Massif de la Selle, gr. Crete-a-Piquants, Port-au-Prince, between Carrefour-Martin and Bois d'Orme, ca. 800 m, limestone, 17 Dec 1926, *Ekman H 7402* (PARATYPE: S!, EHH n.v.).

Matelea phainops Krings, Sida 22:948. 2006.
Protologue: "Dominican Republic. Vine, up to 1.5 m high, flowers yellowish green, in thickets, about 2 mi W of Oviedo, alt. about sea level, on limestone, 3 Nov 1989 (fl), *A.H. Liogier 16617* (HOLOTYPE: GH!; ISOTYPES: NY!, USF!)."
Type: Dominican Republic, about 2 mi W of Oviedo, alt. about sea level, on limestone, 3 Nov 1989, *Liogier 16617* (HOLOTYPE: GH!; ISOTYPES: NY!, USF!).

Matelea proctori Krings, J. Bot. Res. Inst. Texas 2:151. 2008.
See *Jacaima parvifolia* Proctor

Matelea pubescens (Griseb.) Krings, J. Bot. Res. Inst. Texas 2:131. 2008.
See *Gonolobus pubescens* Griseb.

Matelea rhamnifolia (Griseb.) Krings, Sida 21:1515. 2005.
See *Gonolobus rhamnifolius* Griseb.

Matelea rhynchocephala Krings, Sida 22:949. 2006.
Protologue: "Dominican Republic. Prov. Santiago, Valle del Cibao, Santiago, Hato del Yaque, in thickets, fl. green, fruiting, 15 Feb 1930 (fl & fr), *E.L. Ekman H14296* (HOLOTYPE: S!)."
Type: Dominican Republic, Prov. Santiago, Valle del Cibao, Santiago, Hato del Yaque, in thickets, 15 Feb 1930, *E.L. Ekman H 14296* (HOLOTYPE: S!).

Matelea rubra (H. Karst.) Spellman & Morillo, Phytologia 34:152. 1976.
See *Omphalophthalma rubra* H. Karst.

Matelea rubra (H. Karst.) Aa & Stoffers, Proc. Kon. Ned. Akad. Wetensch., C 84(3):309. 1981.
Notes: *Matelea rubra* (H. Karst.) Aa & Stoffers is nomenclaturally superfluous as the combination by Spellman & Morillo (loc. cit.) has priority.
See **Matelea rubra** (H. Karst.) Spellman & Morillo.

Matelea sintenisii (Schltr.) Woodson, Ann. Missouri Bot. Gard. 28:226. 1941.
See *Gonolobus sintenisii* Schltr.

Matelea sylvicola Alain, Phytologia 22:168. 1971, nom. illeg., non L.O. Williams 1968.
See **Matelea monticola** Alain.

Matelea tamnifolia (Griseb.) Woodson, Ann. Missouri Bot. Gard. 28:225. 1941.
See *Poicilla tamnifolia* Griseb.

Matelea tigrina (Griseb.) Woodson, Ann. Missouri Bot. Gard. 28:226. 1941.
See *Gonolobus tigrinus* Griseb.

Matelea torulosa Krings, Sida 22:951. 2006.
Protologue: "Dominican Republic. Distr. Nacional, Los 3 Ojos de Agua, near Santo Domingo, 31 Oct 1959 (fl), *E. Marcano [J.J. Jiménez] 4096* (HOLOTYPE: US!)."
Type: Dominican Republic, Distr. Nacional, Los 3 Ojos de Agua, near Santo Domingo, 31 Oct 1959, *E. Marcano [J.J. Jiménez] 4096* (HOLOTYPE: US!).

Matelea variifolia (Schltr.) Woodson, Ann. Missouri Bot. Gard. 28:226. 1941.
See *Gonolobus variifolius* Schltr.

Matelea viridiflora (G. Mey.) Woodson, Ann. Missouri Bot. Gard. 28:325. 1941.
See *Cynanchum denticulatum* Vahl (syn. fide Howard 1989b).

Matelea viridivenia Alain, Phytologia 22:169. 1971.
Protologue: "Cabo Rojo, Pedernales, 4 Nov 1969, Alain Liogier 16637 (HOLOTYPE, NY; ISOTYPES: US, GH, P, IJ); about 5 miles E of Cabo Rojo, 8 Feb 1969, Alain Liogier 13620 fruiting specimen (NY); in thickets, km 92 from Bani to Azua, alt 80 m, 3 Nov 1969, Alain Liogier 16598 (NY, US, GH, P); on limestone, los Guanitos, 7 mi E of Cabo Rojo, Pedernales, 13 Nov 1969, Alain Liogier 16961b (NY, US, GH, P, IJ)."
Type: Dominican Republic, Cabo Rojo, Pedernales, 4 Nov 1969, *Alain Liogier 16637* (HOLOTYPE: NY!); about 5 miles E of Cabo Rojo, 8 Feb 1969, *Alain Liogier 13620* fruiting specimen (paratype: NY!); in thickets, km 92 from Bani to Azua, alt 80 m, 3 Nov 1969, *Alain Liogier 16598* (paratype: NY!); on limestone, los Guanitos, 7 mi E of Cabo Rojo, Pedernales, 13 Nov 1969, *Alain Liogier 16961b* (paratype: NY!, USF!).
Notes: The types or paratypes listed in the protologue for GH, IJ, P, and US have not been found.

Omphalophthalma rubra H. Karst., Fl. Columb. 2:119, t. 163. 1866. ≡ **Matelea rubra** (H. Karst.) Spellman & Morillo, Phytologia 34:152. 1976.
Protologue: "Habitat litora maris Caribaei prope St. Martam [Colombia], "loc. not cited.
Type: Colombia [New Granada], St. Marta, Herb. Karsten (HOLOTYPE: LE [Sennikov, pers. comm.; n.v., not sent on loan due to budget constraints]).

Orthosia acuminata Griseb., Cat. Pl. Cub. 175. 1866. ≡ **Matelea acuminata** (Griseb.) Woodson, Ann. Missouri Bot. Gard. 28:225. 1941.
Protologue: "Cuba or. (*Wr. 2966*)," loc. not cited.
Type: Cuba, Oriente, *Wright 2966*, 1860–1864 (LECTOTYPE designated by Krings & Fantz 2006: GH!; ISOLECTOTYPES: BM!, G!, HAC! [2 sheets], K!).
Notes: Krings and Fantz (2006) noted that sheets of *Wright 2966* (BM, G, GH, HAC, and K) bear white labels with the dates 1860–64. The mounted field ticket on the GH sheet reads: "Asclepias – Fl. (except the white stigma) green. Farallones San Andre Oct 27." As *Wright 2966* (GH!) contains fifteen inflorescences and is in very good condition; it was designated as lectotype for *Orthosia acuminata* Griseb. by Krings and Fantz (2006). *Wright 2966* (G!) contains four inflorescences and is in superior condition to the HAC material. *Wright 2966* (BM!, G!, HAC!, K!) should be considered isolectotypes. See Krings and Fantz 2006 for additional discussion regarding their philosophy of typification of Wright specimens.

Orthosia oblongata Griseb., Cat. Pl. Cub. 176. 1866. ≡ **Matelea oblongata** (Griseb.) Woodson, Ann. Missouri Bot. Gard. 28:226. 1941.
Protologue: "Cuba occ. (*Wr. 2967*)," loc. not cited.
Type: Cuba, *Wright 2967*, 1860–1864 (LECTOTYPE designated by Krings & Fantz 2006: GH!; ISOLECTOTYPES: BM!, G!, HAC!, K!, MO, S!).
Notes: Krings and Fantz (2006) noted that sheets of the original material for *O. oblongata*—at BM!, G!, GH!,

HAC!, K!, MO, and S!—all bear white labels with the dates 1860–64. The mounted field ticket of *Wright 2967* (GH) reads: "Asclepias – Fl. green – a white speck at the tips of the segments. Stigma white. Loma de Ranjel June 17." Field tickets do not accompany the other specimens. Krings and Fantz (2006) designated *Wright 2967* (GH) lectotype for *Orthosia oblongata* Griseb., considering the duplicates at G, HAC, K, MO. and S isolectotypes. *Wright 2967* (GH) is in good condition, with numerous inflorescences. See Krings and Fantz (2006) for additional discussion regarding their philosophy of typification of Wright specimens.

Poicilla acuminata (Griseb.) Schltr. in Urban, Symb. Antill. 5(3):469. 1908. ≡ **Matelea acuminata** (Griseb.) Woodson, Ann. Missouri Bot. Gard. 28:225. 1941.
See *Orthosia acuminata* Griseb.

Poicilla costata Urb., Symb. Antill. 6(1):38. 1909. ≡ **Matelea costata** (Urb.) Morillo, Anales Jard. Bot. Madrid 43:239. 1987 ["1986"].
Protologue: "Hab. in Jamaica juxta viam ad Wareka in Long Mountain ad latus australe, 200 m. alt., m. Nov. fl., m. Jun. fruct.: Harris n. 9590, 10006," loc. not cited.
Type: Jamaica, road to Wareka, Long Mountain, S side, 19 Nov 1907 (fl), *W. Harris 10006* (LECTOTYPE, here designated: BM!; ISOLECTOTYPE: UCWI!); Jamaica, Long Mountain, S side, 600 feet altitude, 21 Jun 1907 (fr), *W. Harris 9590* (SYNTYPES: NY!; UCWI!).
Notes: *Harris 9590* (NY) is annotated in Urban's hand.

Poicilla mollis (Griseb.) Schltr. in Urban, Symb. Antill. 5(3):470. 1908. ≡ **Matelea mollis** (Griseb.) Woodson, Ann. Missouri Bot. Gard. 28:223. 1941.
See *Ibatia mollis* Griseb.

Poicilla oblongata (Griseb.) Schltr. in Urban, Symb. Antill. 5(3):470. 1908. ≡ **Matelea oblongata** (Griseb.) Woodson, Ann. Missouri Bot. Gard. 28:226. 1941.
See *Orthosia oblongata* Griseb.

Poicilla ovatifolia Griseb., Cat. Pl. Cub. 177. 1866. ≡ **Matelea ovatifolia** (Griseb.) Woodson, Ann. Missouri Bot. Gard. 28:225. 1941.
Protologue: "Cuba or. (*Wr. 2965*)," loc. not cited.
Type: Cuba, Oriente, *Wright 2965* (LECTOTYPE designated by Krings and Fantz 2006: GOET!; SYNTYPES: BM!; BREM!, G!, GH!, HAC!, K n.v., LE n.v., NY!, P!, S!, UC!).
Notes: As Krings and Fantz (2006) noted, no field tickets accompany the GOET specimen or any syntype, except the GH specimen. Accompanying field tickets of the GH specimen suggest that the sheet is comprised of at least two collections made at different times (Mar, Jun), although three fragments are mounted. The two fragments mounted on the right contain inflorescences; the fragment mounted on the left contains infructescences. Both field tickets refer to flowers with neither one mentioning fruits. Fruits are not described in Grisebach's protologue and are not present on any other syntype beside the GH specimen. Except for the GOET specimen, collection labels of all other known specimens are white and bear the dates 1860–64. The GOET specimen bears a tan label with a printed date of 1860, although the zero appears to have been crossed out. It is heavily written on in Grisebach's hand and is herein designated lectotype for *Poicilla ovatifolia* Griseb. The studied (and matching) duplicately-numbered material in other herbaria remain syntypes.

Poicilla tamnifolia Griseb., Cat. Pl. Cub. 176. 1866. ≡ **Matelea tamnifolia** (Griseb.) Woodson, Ann. Missouri Bot. Gard. 28:225. 1941.
Protologue: "Cuba or., in monte Toro pr. Potosi (*Wr.*)," loc. not cited.
Type: Cuba, San José, 5 Oct, *Wright s.n.* (LECTOTYPE, here designated: GH!); *Wright s.n.* (SYNTYPE: NY! [fragment]).
Notes: See discussion under *Gonolobus tigrinus* regarding problems of typification of Grisebach names based on Wright collections. Unfortunately, there is no extant Wright material corresponding to *Poicilla tamnifolia* at GOET. However, a specimen does exist at GH, which can be designated lectotype following Howard (1989a): Cuba, San José, 5 Oct, *Wright s.n.*

Poicillopsis crispiflora Urb., Feddes Repert. 19:7. 1923. ≡ **Matelea crispiflora** (Urb.) Jiménez, Rhodora 62:238. 1960.
Protologue: "Haiti prope Furcy 1500 m alt., m. Sept. flor.: *Buch no. 1995*," loc. not cited.
Type: Haiti, prope Furcy, im Gebüsch, Blth weiss, 1500 m alt., m. Sept. flor., *Buch no. 1995* (LECTOTYPE, here designated: IJ!).
Notes: *Buch 1995* consists of four flowers in two umbellate inflorescences and a few leaves on stems, though most are in a fragment pocket. The single additional collection of this species that matches the protologue is *Ekman H1933* (EHH n.v., K!, S!): Haiti, Morne de la Selle, Furcy, 1540m, in Buchs [sic] Botan. Garden, 17 Sept 1924. The sheets at K and S are in exceedingly good condition, bearing numerous leaves and flowers. The sheet at EHH has not been seen, but is listed here based on the catalogue provided by: http://www.umce.ca/cours/martin/herbier_ekman/recherche.pl.

Poicillopsis ovatifolia (Griseb.) Schltr. in Urban, Symb. Antill. 7(3):339. 1912. ≡ **Matelea ovatifolia** (Griseb.) Woodson, Ann. Missouri Bot. Gard. 28:225. 1941.
See *Poicilla ovatifolia* Griseb.

Poicillopsis tuerckheimii Schltr. in Urban, Symb. Antill. 7(3):339. 1912.
See **Matelea constanzana** J. Jiménez Alm.

Ptycanthera berterii Decne. in de Candolle, Prodr. 8:606. 1844, nom. illeg.
Protologue: "S. Domingo (*Bertero*) [...] (v.s.h. DC.)."
Type: Hispaniola, 'St. Domingue,' *Bertero s.n.* (HOLOTYPE: G-DC [IDC microfiche Candolle Prodromus Herbarium, fiche # 1543!]; ISOTYPE: P!).
Notes: The name *Ptycanthera berterii* Decne. is illegitimate as the nomenclatural type is the same as that of *Gonolobus pauciflorus* Spreng. (see above). Schlechter (1899) misapplied Decaisne's name to *Orthosia acuminata* Griseb. (syn. *Matelea acuminata* (Griseb.) Woodson).

Ptycanthera mollis (Griseb.) Schltr. in Urban, Symb. Antill. 1(2):280. 1899. ≡ **Matelea mollis** (Griseb.) Woodson, Ann. Missouri Bot. Gard. 28:223. 1941.
See *Ibatia mollis* Griseb.

Ptycanthera oblongata (Griseb.) Schltr. in Urban, Symb. Antill. 1(2):280. 1899. ≡ **Matelea oblongata** (Griseb.) Woodson, Ann. Missouri Bot. Gard. 28:226. 1941.
See *Orthosia oblongata* Griseb.

Ptycanthera ovatifolia (Griseb.) Schltr. in Urban, Symb. Antill. 1(2):279. 1899. ≡ **Matelea ovatifolia** (Griseb.) Woodson, Ann. Missouri Bot. Gard. 28:225. 1941.
See *Poicilla ovatifolia* Griseb.

Vincetoxicum acuminatum (Griseb.) M. Gómez, Anales Acad. Ci. Med. Habana 23:276. 1894. ≡ **Matelea acuminata** (Griseb.) Woodson, Ann. Missouri Bot. Gard. 28:225. 1941.
See *Orthosia acuminata* Griseb.

Vincetoxicum oblongatum (Griseb.) M. Gómez, Anales Acad. Ci. Med. Habana 23:276. 1894. ≡ **Matelea oblongata** (Griseb.) Woodson, Ann. Missouri Bot. Gard. 28:226. 1941.
See *Orthosia oblongata* Griseb.

Vincetoxicum sintenisii (Schltr.) Britton in Britton & P. Wilson, Sci. Surv. Porto Rico & Virgin Islands 6:100. 1925. ≡ **Matelea sintenisii** (Schltr.) Woodson, Ann. Missouri Bot. Gard. 28:226. 1941.
See *Gonolobus sintenisii* Schltr.

Vincetoxicum stephanotrichum (Griseb.) Britton in Britton & P. Wilson, Sci. Surv. Porto Rico & Virgin Islands 6:100. 1925.
See **Gonolobus stephanotrichus** Griseb.

Vincetoxicum variifolia (Schltr.) Britton in Britton & P. Wilson, Sci. Surv. Porto Rico & Virgin Islands 6:100. 1925. ≡ **Matelea variifolia** (Schltr.) Woodson, Ann. Missouri Bot. Gard. 28:226. 1941.
See *Gonolobus variifolius* Schltr.

Names of uncertain application or excluded from Gonolobinae. The following names include those for which neither protologues nor types could be obtained, or for which the specimens do not belong in Gonolobinae. Names of the former category have long been placed in synonymy by authors of treatments of West Indian Gonolobinae (e.g., Schlechter 1899; Alain 1957).

Cynanchum crispiflorum Sw., Prodr. 52. 1788. ≡ *Fischeria crispiflora* (Sw.) K. Schum., Nat. Pflanzenfam. 4(2):230. 1895.
Protologue: "India Occidentalis, Jamaica," loc. not cited.
Type: Plum., Pl. amer. 216, f. 1. 1759.
Notes: According to Murphy (1986), the name *Cynanchum crispiflorum* Sw. (and various subsequent combinations in *Fischeria*) has been misapplied by various workers to what she recognized as *Fischeria scandens* DC. Murphy (1986) excluded the type of *C. crispiflorum* Sw. from *Fischeria* and recognized only the following two species in the West Indies: *F. scandens* DC. (Cuba and Jamaica) and *F. stellata* (Vell.) Fourn. (Trinidad). A current annotation in TROPICOS suggests that the type of *C. crispiflora* Sw.—the Plumier figure—may be *Prestonia agglutinata* (Jacq.) Woodson (≡ *Allotoonia agglutinata* (Jacq.) J.F. Morales & J.K. Williams). I am unfamiliar with this latter taxon, but a comparison of the Plumier figure to that of *Allotoonia agglutinata* (syn. *Echites agglutinata*) as illustrated in Acevedo-Rodríguez (2005), shows differences in the corolla lobes (linear-lanceolate in Acevedo-Rodríguez (2005) vs. suborbicular in the Plumier figure).

Fischeria crispiflora (Sw.) Schltr. in Urban, Symb. Antill. 1(2):268. 1899, nom. illeg.
Notes: A superfluous combination; see *F. crispiflora* (Sw.) K. Schum.

Fischeria crispiflora (Sw.) K. Schum., Nat. Pflanzenfam. 4(2):230. 1895.
See *Cynanchum crispiflorum* Sw.

Gonolobus crispiflorus (Sw.) R.Br. ex Schult., Syst. Veg. 6:60. 1820.
See *Cynanchum crispiflorum* Sw.

Gonolobus ottonis C. Koch & Bouche, Ind. Sem. Hort. Berol. 13. 1855.
Protologue: unknown.
Type: unknown.
Notes: Sometimes cited as *Gonolobus ottonis* Walp. (Ann. Bot. Syst. 5:502. 1859.). However, Walpers (1859) clearly cited *G. ottonis* C. Koch & Bouche and should not be considered author of a homonym. Walpers (1859) repeated Koch and Bouche's citation: 'Ex insula Cuba reportavit *Otto*.' However, Schlechter (1899) thought that the specimen collected by Otto (apparently formerly at B) was from Caracas, Venezuela, not from Cuba. The location of the type is unknown.

Gonolobus oxyanthus Turcz., Bull. Soc. Imp. Naturalistes Moscou 25(2):318. 1852.
Protologue: "Venezuela, Funck 2," fide TROPICOS (protologue n.v.).
Type: Venezuela, 1845–1852, Funk 2 (G, n.v.; P, n.v.) fide TROPICOS.
Notes: Fide Fontella & Schwarz (1981), a synonym of *Gonolobus rostratus* (Vahl) R.Br. ex Schult. (*Systema Vegetabilium* 6:61. 1820). TROPICOS (23 Aug 2006) cited *Funk* 2 (Venezuela) as the type, but a copy of the protologue could not be located. Specimens were not found on either of two visits to P.

Gonolobus virescens Desv. ex Ham., Prodr. Pl. Ind. Occid. 32. 1825.
Protologue: "Herb. Prof. Desvaux, Jamaica. (S. v.)," loc. not cited.
Type: "Jamaica," Herb. Desvaux (HOLOTYPE: P!).
Notes: Rendle (1936) considered *G. virescens* Desv. a *species incerta*. Schlechter (1899) noted that there was likely a locality mix-up between *G. stapelioides* and *G. virescens*, and that the latter was likely collected from

Tobago and not Jamaica (see discussion under *G. stapelioides* above). The morphology of the flowers of *Desvaux s.n.* (P) places it in Marsdenieae Benth., rather than Gonolobinae.

Lachnostoma ovatum Turcz., Bull. Soc. Imp. Naturalistes Moscou 25(2):318. 1852.
Protologue: unknown.
Type: unknown.
Notes: Cited as *L. ovata* and as a synonym for *Matelea ovatifolia* (Griseb.) Woodson by Alain (1957). Neither protologue, nor type could be located.

ACKNOWLEDGMENTS

I thank the curators and staff of the following herbaria for searching, or providing access to or loans of their collections: B, BG, BH, BKL, BM, BOLO, BR, BREM, BSC, BUF, C, CGE, COLO, CR, DUKE, E, F, FI, FLAS, FR, FTG, G, GH, GOET, H, HAC, HAJB, HBG, IA, IJ, ISC, JBSD, JE, K, L, LD, LE, LINN (Linnean and Smithean herbaria), M, MICH, MIN, MO, MSC, NCU, NEU, NSW, NY, O, OXF, P, PH, RSA, S, U, UBT, UC, UCWI, UPRRP, UPS, US, USF, TUR, WILLI, WU, Z. I also thank Pedro Acevedo-Rodríguez (US), Paul Fantz (NCSC), and an anonymous reviewer for review of the manuscript.

REFERENCES

Acevedo-Rodríguez, P. 2005. Vines and climbing plants of Puerto Rico and the Virgin Islands. Contr. U.S. Natl. Herb. 51:1–483.

Adams, C.D. 1972. Flowering plants of Jamaica. University of the West Indies, Mona.

Alain [hno.]. 1957. Flora de Cuba 4. Dicotiledóneas: Melastomataceae a Plantaginaceae. Ocas. Mus. Hist. Nat. Colegio "De La Salle" 16.

Boldingh, I. 1909. The flora of St Eustatius, Saba and St Martin. Flora of the Dutch West Indian Islands 1:1–321.

Boldingh, I. 1914. The flora of Curaçao, Aruba and Bonaire. Flora of the Dutch West Indian Islands 2:1–197.

Bridson, G.D.R. and E.R. Smith. 1991. B-P-H/S: Botanico-Periodicum-Huntianum/Supplementum. Hunt Institute for Botanical Documentation, Pittsburgh.

Brummitt, R.K. and C.E. Powell. 1992. Authors of Plant Names. Royal Botanical Garden, Kew. [http://www.ipni.org/index.html].

Cheesman, E.E. 1947. Asclepiadaceae. In: E.E. Cheesman and R.O. Williams, eds. Flora of Trinidad and Tobago. Department of Agriculture, Port-of-Spain. Pp. 162–175.

Correll, D.S. and H.B. Correll. 1982. Flora of the Bahama archipelago: including the Turks and Caicos islands. J. Cramer, Vaduz.

D'Arcy, W.G. 1967. Annotated checklist of the dicotyledons of Tortola, Virgin Islands. Rhodora 69:385–450.

D'Arcy, W.G. 1970. Jacquin names, some notes on their typification. Taxon 19:554–560.

Drapalik, D.J. 1969. A biosystematic study of the genus *Matelea* in the southeastern United States. Ph.D. dissertation, University of North Carolina, Chapel Hill.

Duss, Rév. Père. 1897. Flore phanérogamique des Antilles françaises (Guadeloupe et Martinique). Ann. Inst. Colonial Marseille 3:1–656.

Fontella P., J. and E.A. Schwarz. 1981a. Estudos em Asclepiadaceae XII. Consideracoes sobre os generos Roulinia Decne. et Rouliniella Vail. Bol. Mus. Mun. Curitiba 45:1–12.

Fontella P., J. and E.A. Schwarz. 1981b. Estudos em Asclepiadaceae, XIII. Novos sinônimos e novas combinações. Bol. Mus. Mun. Curitiba 46:1–10.

Fournet, J. 2002. Flore illustrée des phanérogames de Guadeloupe et de Martinique. Gondwana editions.

Gooding, E.G.B., A.R. Loveless, and G.R. Proctor. 1965. Flora of Barbados. HMSO, London.

Grisebach, A.H.R. 1862. Flora of the British West Indian Islands. Reeve & Co., London.

Grisebach, A.H.R. 1866. Catalogus plantarum cubensium. Guilielmum Engelmann, Lipsiae.

Holmgren, P.K. and N.H. Holmgren. 1998–present (continuously updated). Index Herbariorum. New York Botanical Garden. http://sciweb.nybg.org/science2/IndexHerbariorum.asp

Howard, R.A. 1952. The Society of Plant Taxonomist's plaque honoring Erick L. Ekman. Bull. Torrey Bot. Club 79:80–84.

Howard, R.A. 1986. Notes on *Quiina* (Quiinaceae) and *Ilex* species (Aquifoliaceae) in Cuba. Brittonia 38:13–16.

Howard, R.A. 1989a. Charles Wright in Cuba, 1856–1867. Chadwick-Healy, Alexandria.

Howard, R.A. 1989b. Flora of the Lesser Antilles, Leeward and Windward Islands 6. Jamaica Plains, Massachusetts.

Krings, A. 2005a. A new combination in *Matelea* (Apocynaceae - Asclepiadoideae) for an endemic Jamaican vine. Sida 21:1515–1517.

Krings, A. 2005b. A new species of *Matelea* (Apocynaceae - Asclepiadoideae) from Hispaniola. Sida 21:1519–1523.

Krings, A. 2005c. Notes on the *Matelea bayatensis-correllii-tigrina* complex (Apocynaceae - Asclepiadoideae - Gonolobinae) in the Greater Antilles and Bahamas. Sida 21:1525–1533.

Krings, A. 2005d. Lectotypification and a new combination in *Matelea* (Apocynaceae - Asclepiadoideae) for an endemic Hispaniolan vine. Sida 21:2081–2085.

Krings, A. 2006. Four novelties and a lectotypification in *Matelea* (Apocynaceae: Asclepiadoideae) from Hispaniola. Sida 22:941–953.

Krings, A. 2007. Novelties in *Gonolobus* (Apocynaceae: Asclepiadoideae) from the Lesser Antilles. Syst. Bot. 32:180–194.

Krings, A. 2008. Revision of *Gonolobus* s.s. (Apocynaceae, Asclepiadoideae) in the West Indies. J. Bot. Res. Inst. Texas. 2:95–138.

Krings, A. and P.R. Fantz. 2006. Notes on types in Apocynaceae - Asclepiadoideae in Cuban herbaria and four lectotypifications in West Indian Gonolobinae. Sida 22:533–537.

Krings, A. and A.C. Saville. 2007. Novelties and lectotypifications in the *Ibatia-Matelea* complex (Apocynaceae: Asclepiadoideae) from northern South America. Syst. Bot. 32:862–871.

Krings, A. and Q.-Y. Xiang. 2004. The *Gonolobus* complex (Apocynaceae - Asclepiadoideae) in the southeastern United States. *Sida* 21:103–116.

Krings, A. and Q.-Y. Xiang. 2005. Taxonomy of the *Gonolobus* complex (Apocynaceae - Asclepiadoideae) in the southeastern US: ISSR evidence and parsimony analysis. Harvard Pap. Bot. 10:147–159.

Krings, A., F. Areces Berazaín, and J.C. Lazcano Lara. 2005. New and rediscovered milkweeds from Cuba: *Calotropis gigantea* and *Gonolobus stephanotrichus* (Apocynaceae - Asclepiadoideae). Willdenowia 35:315–318.

Krings, A., D. Thomas, and Q.-Y. Xiang. 2008. On the generic circumscription of *Gonolobus* (Apocynaceae, Asclepiadoideae): Evidence from molecules and morphology. Syst. Bot. 38:403–415.

Kunze, H. 1995. Floral morphology of some Gonolobeae (Asclepiadaceae). Bot. Jahrb. Syst. 117:211–238.

Lawrence, G.H.M., A.F.G. Bucheim, G.S. Daniels, and H. Dolezal. 1968. B-P-H: Botanico Periodicum Huntianum. Hunt Botanical Library, Pittsburgh.

Liede, S. 1997. Subtribes and genera of the tribe Asclepiadeae (Apocynaceae - Asclepiadoideae) - a synopsis. Taxon 46:233–247.

Liede, S. and H. Kunze. 2002. *Cynanchum* and the Cynanchinae (Apocynaceae – Asclepiadoideae): A molecular, anatomical and latex triterpenoid study. Org. Divers. Evol. 2:239–269.

Liede-Schumann, S., A. Rapini, D.J. Goyder, and M.W. Chase. 2005. Phylogenetics of the New World subtribes of Asclepiadeae (Apocynaceae-Asclepiadoideae): Metastelmatinae, Oxypetalinae, and Gonolobinae. Syst. Bot. 30:184–195.

Liogier, A.H. 1968. Novitates Antillanae III. Brittonia 20:148–161.

Liogier, A.H. 1994. La flora de la Española 6. San Pedro de Macorís, Dominican Republic.

Liogier, A.H. 1995. Descriptive flora of Puerto Rico and adjacent islands 4. Río Piedras, Puerto Rico.

Little, E.L., Jr., R.O. Woodbury, and F.H. Wadsworth. 1976. Flora of Virgin Gorda (British Virgin Islands). United States Dept. Agric. For. Service Res. Pap., ITF-21:1–36.

Millspaugh, C.F. 1902. Flora of the island of St. Croix. Field Mus., Bot. 1:441–546.

Morillo, G. 1997. Revisión preliminar de *Metalepis* Griseb. (Asclepiadaceae). Pittieria 26:65–99.

Moscoso, R.M. 1943. Catalogus florae Domingensis. L. & S. Printing Co., New York.

Murphy, H. 1986. A revision of the genus *Fischeria* (Asclepiadaceae). Syst. Bot. 11:229–241.

Nicolson, D.H. 1991. Flora of Dominica, Part 2: Dicotyledonae. Smithsonian Contr. Bot. 77:1–274.

Nordenstam, B., R. Lundin, and T.A. Zanoni. 1994. Herbaria of Olof Swartz and Erik L. Ekman at Stockholm (S). Fl. Greater Antilles Newsl.

Proctor, G.R. 1984. Flora of the Cayman Islands. Kew Bull., Addit. Ser. 11:1–834.

Rankin Rodríguez, R. and W. Greuter. 2000. Notes on *Aristolochia linearifolia* and *A. stenophylla* (Aristolochiaceae), a vicarious species pair from the Greater Antilles (Cuba and Hispaniola). Willdenowia 30:131–139.

Rapini, A., M.W. Chase, and T.U.P. Konno. 2006. Phylogenetics of South American Asclepiadoideae (Apocynaceae). Taxon 55:119–124.

Rapini, A., M.W. Chase, D.J. Goyder, and J. Griffiths. 2003. Asclepiadeae classification: Evaluation the phylogenetic relationships of New World Asclepiadoideae (Apocynaceae). Taxon 52:33–50.

Reveal, J.L. and F.R. Barrie. 1992. *Matelea suberosa* (L.) Shinners (Asclepiadaceae)—once again. Bartonia 57:36–38.

Schlechter, R. 1899. Asclepiadaceae. In: I. Urban, ed. Symbolae Antillanae. Gebrüder Borntraeger, Berlin. Pp. 236–290

Spellman, D. 1975. Asclepiadaceae. In: Flora of Panamá, R. Woodson et al. Ann. Missouri Bot. Gard. 62:103–156.

Sundell, E. 1981. The New World species of *Cynanchum* subg. *Mellichampia* (Asclepiadaceae). Evol. Monogr. 5:1–62.

Stafleu, F.A. and R.S. Cowan. 1976. Taxonomic literature: A selective guide to botanical publications and collections with dates, commentaries and types. Vol. 1: A–G. Bohn, Scheltema, and Holkema, Utrecht.

Stafleu, F.A. and R.S. Cowan. 1979. Taxonomic literature: A selective guide to botanical publications and collections with dates, commentaries and types. Vol. 2: H–Le. Bohn, Scheltema, and Holkema, Utrecht and W. Junk, The Hague.v

Stafleu, F.A. and R.S. Cowan. 1981. Taxonomic literature: A selective guide to botanical publications and collections with dates, commentaries and types. Vol. 3: Lh–O. Bohn, Scheltema, and Holkema, Utrecht/Antwerpen and W. Junk, The Hague/Boston.

Stafleu, F.A. and R.S. Cowan. 1983. Taxonomic literature: A selective guide to botanical publications and collections with dates, commentaries and types. Vol. 4: P–Sak. Bohn, Scheltema, and Holkema, Utrecht/Antwerpen and W. Junk, The Hague/Boston.

Stafleu, F.A. and R.S. Cowan. 1985. Taxonomic literature: A selective guide to botanical publications and collections with dates, commentaries and types. Vol. 5: Sal–Ste. Bohn, Scheltema, and Holkema, Utrecht/Antwerpen and W. Junk, The Hague/Boston.

Stafleu, F.A. and R.S. Cowan. 1986. Taxonomic literature: A selective guide to botanical publications and collections with dates, commentaries and types. Vol. 6: Sti–Vuy. Bohn, Scheltema, and Holkema, Utrecht/Antwerpen and W. Junk, The Hague/Boston.

Stafleu, F.A. and R.S. Cowan. 1988. Taxonomic literature: A selective guide to botanical publications and collections with dates, commentaries and types. Vol. 7: W–Z. Bohn, Scheltema, and Holkema, Utrecht/Antwerpen and W. Junk, The Hague/Boston.

Woodson, Jr., R.E. 1941. The North American Asclepiadaceae. Ann. Missouri Bot. Gard. 28:193–244.

Index to names

Asclepias maritima **Jacq.**,
Cynanchum crispiflorum **Sw.**,
Cynanchum denticulatum **Vahl**,
Cynanchum hirsutum **Vahl**,
Cynanchum maritimum **(Jacq.) Jacq.**,
Cynanchum maritimum **(Jacq.) L.**,
Cynanchum rostratum **Vahl**,
Cynanchum stellatum **Vell.**,
Cynanchum viridiflorum **G. Mey.**,
Fischeria cincta **Griseb.**,
Fischeria crispiflora **(Sw.) K. Schum.**,
Fischeria crispiflora **(Sw.) Schltr.**,

Fischeria multiflora Decne.,
Fischeria multiflora Griseb.,
Fischeria scandens DC.,
Fischeria stellata (Vell.) E. Fourn.,
Fisheria havanensis Decne.,
Gonolobus absalonensis Krings,
Gonolobus bakeri Schltr.,
Gonolobus bayatensis Urb.,
Gonolobus bicolor (Britton & P.Wilson) Urb.,
Gonolobus broadwayae Schltr.,
Gonolobus ciliatus Schltr.,
Gonolobus cinctus (Griseb.) Benth.,
Gonolobus cinctus (Griseb.) Benth. & Hook. f. ex B.D. Jacks.,
Gonolobus crispiflorus (Sw.) R.Br. ex Schult.,
Gonolobus denticulatus (Vahl) W.D. Stevens,
Gonolobus dictyopetalus Urb. & Ekman,
Gonolobus domingensis Alain,
Gonolobus dussii Krings,
Gonolobus ekmanii Urb.,
Gonolobus floccosus Bertol.,
Gonolobus grenadensis Schltr.,
Gonolobus grisebachianus Schltr.,
Gonolobus haitiensis P.T. Li,
Gonolobus iyanolensis Krings,
Gonolobus jamaicensis Rendle,
Gonolobus maritimus (Jacq.) R.Br.,
Gonolobus maritimus (Jacq.) R.Br. ex Schult.,
Gonolobus martinicensis Decne.,
Gonolobus membranaceus Schltr.,
Gonolobus nipensis Urb.,
Gonolobus ottonis C. Koch & Bouche,
Gonolobus oxyanthus Turcz.,
Gonolobus pauciflorus Spreng.,
Gonolobus pubescens Griseb.,
Gonolobus rhamnifolius Griseb.,
"*Gonolobus rostratus*" auct. non (Vahl) Schult.,
Gonolobus rostratus (Vahl) Schult.,
"*Gonolobus scandens* (Aubl.) Urb.,
Gonolobus scandens Urb.,
Gonolobus sintenisii Schltr.,
Gonolobus stapelioides Desv. ex Ham.,
Gonolobus stellatus Griseb.,
Gonolobus stephanotrichus Griseb.,
Gonolobus stipitatus Alain,
"*Gonolobus suberosus*" auct. non (L.) R.Br.,
Gonolobus tigrinus Griseb.,
Gonolobus tigrinus Griseb. var. *angustifolius* Griseb.,
Gonolobus tobagensis Urb.,
Gonolobus variifolius Schltr.,
Gonolobus virescens Desv. ex Ham.,
Gonolobus viridiflorus Schult.,
Gonolobus waitukubuliensis Krings,
Gonolobus youroumaynensis Krings,
Holostemma candolleanum Spreng.,
Ibatia maritima (Jacq.) Decne.,
Ibatia mollis Griseb.,
Ibatia muricata Griseb.,
Jacaima costata (Urb.) Rendle,
Jacaima costata (Urb.) Rendle var. *goodfriendii* Proctor,
Jacaima parvifolia Proctor,
Lachnostoma maritimum (Jacq.) G. Nicholson,
Lachnostoma mollis (Griseb.) M. Gómez,
Lachnostoma ovatum Turcz.,
Macroscepis hirsuta (Vahl) Schltr.,
"*Macroscepis obovata*" auct. non Kunth,
Marsdenia bicolor Britton & P. Wilson,
Matelea acuminata (Griseb.) Woodson,
Matelea alainii Woodson,
Matelea annulata Woodson ex Alain,
Matelea bayatensis (Urb.) Woodson,
Matelea bicolor (Britton & P. Wilson) Woodson,
Matelea borinquensis Alain,
Matelea constanzana J. Jiménez Alm.,
Matelea correllii Spellman,
Matelea corynephora Krings,
Matelea costata (Urb.) Morillo,
Matelea costata (Urb.) Morillo var. ***goodfriendii*** (Proctor) Krings,
Matelea crispiflora (Urb.) J. Jiménez Alm.,
Matelea denticulata (Vahl) Fontella & E.A. Schwarz,
Matelea dictyopetala (Urb. & Ekman) Krings,
Matelea domingensis (Alain) Krings,
Matelea ekmanii (Urb.) Woodson,
Matelea grisebachiana (Schltr.) Alain,
Matelea hastata Alain,
Matelea hirsuta (Vahl) Woodson,
Matelea linearipetala Alain,
Matelea maritima (Jacq.) Woodson,
Matelea mollis (Griseb.) Woodson,
Matelea monticola Alain,
Matelea nipensis (Urb.) Woodson,
Matelea oblongata (Griseb.) Woodson,
Matelea ovatifolia (Griseb.) Woodson,
Matelea pauciflora (Spreng.) Woodson,
Matelea pentactina Krings,
Matelea phainops Krings,
Matelea proctori Krings,
Matelea pubescens (Griseb.) Krings,
Matelea rhamnifolia (Griseb.) Krings,
Matelea rhynchocephala Krings,
Matelea rubra (H. Karst.) Aa & Stoffers,
Matelea rubra (H. Karst.) Spellman & Morillo,
Matelea sintenisii (Schltr.) Woodson,
Matelea sylvicola Alain,
Matelea tamnifolia (Griseb.) Woodson,
Matelea tigrina (Griseb.) Woodson,
Matelea torulosa Krings,
Matelea variifolia (Schltr.) Woodson,
Matelea viridiflora (G. Mey.) Woodson,
Matelea viridivenia Alain,
Omphalophthalma rubra H. Karst.,
Orthosia acuminata Griseb.,
Orthosia oblongata Griseb.,
Poicilla acuminata (Griseb.) Schltr.,
Poicilla costata Urb.,
Poicilla mollis (Griseb.) Schltr.,

Poicilla oblongata (Griseb.) Schltr.,
Poicilla ovatifolia Griseb.,
Poicilla tamnifolia Griseb.,
Poicillopsis crispiflora Urb.,
Poicillopsis ovatifolia (Griseb.) Schltr.,
Poicillopsis tuerckheimii Schltr.,
Ptycanthera berterii Decne.,
Ptycanthera mollis (Griseb.) Schltr.,
Ptycanthera oblongata (Griseb.) Schltr.,
Ptycanthera ovatifolia (Griseb.) Schltr.,
Vincetoxicum acuminatum (Griseb.) M. Gómez,
Vincetoxicum oblongatum (Griseb.) M. Gómez,
Vincetoxicum sintenisii (Schltr.) Britton,
Vincetoxicum stephanotrichum (Griseb.) Britton,
Vincetoxicum variifolia (Schltr.) Britton,